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ABSTRACT

Improving the quality of educational buildings is one of the objectives of the Organisation for Economic Co-Operation and Development (OECD) Programme on Educational Building (PEB). The PEB does this by disseminating information about ways to produce quality educational buildings at a reasonable cost. This report contains descriptions of buildings from OECD member countries that illustrate good architectural design and management in schools. The schools were selected on behalf of the PEB by an international jury. The innovative facilities were nominated for their: (1) special contribution to teaching and learning; (2) special awareness of the architectural heritage or their surrounding environment; (3) particular contribution to urban renewal or to the resolution of urban problems; (4) particular contribution to education and community life in rural areas; or (5) imaginative use of buildings and grounds. Photographs, floor plans, and illustrations accompany the text. (LMI)

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SCHOOLS *for* TODAY *and* TOMORROW

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PROGRAMME ON EDUCATIONAL BUILDING



SCHOOLS
for
TODAY
and
TOMORROW

An international compendium of
exemplary educational facilities

ORGANISATION FOR CO-OPERATION AND ECONOMIC DEVELOPMENT

Organisation for Economic Co-operation and Development

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

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Preface

acknowledgements

This book provides a showcase for some of the best-designed schools in the world today. They have been selected on behalf of the OECD Programme on Educational Building (PEB) by an international jury. The schools exemplify some of the ideas that have arisen from the activities of PEB during the last five years.

The members of the jury were:

Eric Bieler, Canton of Geneva, Switzerland, Vice-Chairman of the PEB Steering Committee

Per Gunvall, Swedish Institute for the Handicapped, Harnosand, Sweden

Michael Hacker, Consultant and former Chairman of the PEB Steering Committee, United Kingdom

Jean-Marie Moonen, Fonds communautaire de garantie des bâtiments scolaires, Brussels, Belgium

Richard Yelland, Head of the PEB Secretariat, Paris, France.

The PEB Steering Committee gratefully acknowledges the help it has received in preparing this publication from the schools and education authorities concerned, and the architects who designed them. The Committee also wishes to express its thanks to those who sent in nominations for inclusion but which were not chosen for publication.

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Introduction

J-M Moonen

Improving the quality of educational buildings is one of the objectives of PEB (the OECD Programme on Educational Building). One way of doing this is to bring to the attention of a wide audience the ideas and recommendations that have emerged from the Programme's work on how to produce quality educational buildings at a reasonable cost. The PEB Steering Committee therefore proposed the publication of a compendium of school buildings which exemplify excellence in one or more of PEB's areas of discussion and research.

Whether architect, teacher, government agent, civil servant at national (federal), regional or local level, we all may need to inform ourselves whether changes we are contemplating in the school buildings for which we are to some degree responsible are specific or form part of a broader, indeed universal, trend.

We might simply seek reassurance that nothing inherited from the past needs to be changed. Or perhaps we may want to take a look at what is happening elsewhere and see how others design schools. What we cannot dispute is the scale of change in education or, more simply, in the different methods of learning.

If we believe in the importance of good architectural design of schools, we might be aiming, through a new organisation of space, to improve education and keep it more closely in touch with the rapidly changing society of which it is a part.

The Programme's intention therefore was to gather together descriptions of buildings which would serve as illustrations in one way or another of good architectural design and management in schools. All the OECD Member countries were invited to participate. Cases were selected by an international jury of experts who between them had many decades of experience of educational policy, school design and the management of education systems.

The fact that a school has been included does not mean that it is considered to be exemplary in all respects. Cases appear in the present

publication because they seem relevant to one or more aspects of PEB's work. A building might thus be included on the basis of its innovative approach to energy management, although its external appearance might seem very ordinary.

The compendium has intentionally been restricted to examples of nursery, primary and secondary schools and buildings used for vocational education. Higher or university education and institutions providing training primarily for adults have not been included. The criteria used to select the schools included are described in the next chapter and derive from activities in the PEB Programmes of Work from 1992 to 1996.

The compendium includes both new and refurbished buildings in their entirety or in part. They range in size; some enrol fewer than 100 pupils, others serve several thousand. They cater for pupils and students of very different ages. Some are situated in rural areas, others in city centres. They have been arranged so that those catering for the younger age groups come first: thus nursery schools precede primary schools, followed by secondary schools and vocational institutions.

Despite the fact that many problems are common to all countries, the development of educational architecture has followed very different courses in different places, reflecting not only tradition and climate, but also the level of economic development. The buildings which have been included in this book are very different in their styles and in their degree of technical and architectural sophistication. They are all, in some way or other, exceptional.

Naturally there are many high-quality buildings that have been completed in recent years which do not appear in this compendium. A collection such as this cannot pretend to be exhaustive. Some countries are not represented – not because they have nothing to show – but because the call for nominations was not answered. We hope that a subsequent publication will make good this shortcoming.

Successive economic crises have eroded investment budgets to a remarkable extent. Schools of whatever level are increasingly asked to fulfil satellite educational functions: sport, cultural activities, specific programmes for local or regional industrial apprenticeships. They are seen as poles of local development. This means that their premises must be more freely available and they must constantly increase their adaptability. Many of the schools featured reflect this concern.

At the same time, funding for maintenance has been more and more difficult to come by. It is notable that in the examples which follow, the categories which relate to the good management of resources are the least well represented.

The last twenty years have also been marked by a constant and growing need to integrate each building with its site. Nowadays, this might seem obvious, but we should guard against what might, on the grounds of cost, be a recurring temptation – namely to construct industrialised school buildings of a standard type regardless of where they are situated. A concern with harmony and with integration is apparent in the design of many of these schools.

When it comes to the relationship between learning technology and the built environment we have to ask whether and to what extent new learning technologies have rendered current construction technology obsolete. Several of the examples in this book show that buildings are adapting to new technologies.

Learning to appreciate beauty is also part of the educational context. And the quality of the environment can have an effect on children, the young and not so young, as they develop in spaces built with harmony and human needs in mind. The beauty of spaces and forms and the attraction of the colours chosen, effective acoustics, carefully selected materials, well-designed lighting and green surroundings all make a contribution which few would dispute.



One could continue at great length on the subject of buildings and their relationship to educational outcomes, but you the reader are no doubt eager to judge the cases presented for yourself. We have given contact names and addresses for each building so that, if need be, you can investigate further. We hope you enjoy reading the compendium and we thank everyone who helped in its production.

J-M Moonen, on behalf of the jury

Education, in OECD Member countries as elsewhere, continues to face the challenges of rapid and far-reaching change. At the same time pressures to reduce expenditure are unrelenting. The physical infrastructure of education – the places and spaces in which people learn and teach – has an important part to play both in contributing and responding to change. Better management and use of resources is necessary if the aim of high-quality education for all is to be achieved.

The various activities of the Programme on Educational Building are all intended to achieve one or more of the following three aims:

- improving the quality and suitability of educational buildings and thus contributing to the quality of education;
- ensuring that the best possible use is made of the very substantial sums of money which are spent on the design, construction, operation and maintenance of educational buildings;
- giving early warning of the implications for educational building of changes in education and in society as a whole.

The work undertaken by the Programme during the 1992-96 period reflected the priorities expressed by those concerned with educational building in participating Member countries; and took account of the recommendations made by the meeting of the Education Committee at ministerial level in 1990 and of the work of other committees and bodies of the Organisation.

Improving the quality of educational buildings

Quality in an educational building is difficult to define in absolute terms. Some aspects, such as conformity with building codes and health and safety requirements, can be described precisely and in ways which lead to objective assessments of quality. There are other aspects which are less easily quantifiable. The aesthetics of educational buildings, their suitability

for the activities which take place in them, and those elements which engender a feeling of security and belonging are examples of attributes which are highly valued but hard to specify objectively.

The conviction is strengthening in many Member countries of the OECD that both these categories of building quality have an impact, not only on educational outcomes, but on the well-being of students and teachers. Barren, forbidding buildings with treeless grounds and in generally poor condition are becoming less acceptable to many communities because they are seen as inimical to good education. There is a growing realisation of the role that educational buildings play in shaping attitudes to the environment and the contribution they can make to urban renewal.

The first five categories under which buildings have been nominated for inclusion in the compendium are:



facilities in which design and/or layout of the buildings is felt to make a special contribution to teaching and learning;



facilities which show especial awareness of the architectural heritage or of their surrounding environment;



facilities which have made a particular contribution to urban renewal or to the resolution of urban problems;



facilities which make a particular contribution to education and community life in rural areas;



facilities which make imaginative use of buildings and grounds (for example, for environmental education).

Management of the physical resources for education

The accumulated investment represented by the educational building stock is very significant in all Member countries. Each year OECD countries

devote, on average, more than five per cent of their gross national product to education. Recent work by PEB suggests that the cost of building, running, cleaning, heating and maintaining schools approaches one-fifth of that amount in many of them.

In a context of limited funding, increasing and changing demand for education, and reform in the structure of decision making, there is continuing and sustained pressure for better value for money to be obtained from the resources devoted to educational buildings. Many countries are becoming extremely concerned about issues such as the maintenance of ageing stock, vandalism, the redeployment and adaptation of buildings, the use of premises for more than one purpose and the reduction of premises-related recurrent expenditure. In many cases however even the basic information necessary for effective management is lacking.

Work in the past five years has tackled a number of aspects of these questions, and the categories under which schools have been nominated for the compendium are:



facilities which have been exceptionally well maintained, or which are designed in such a way as to offer low-cost maintenance in the future;



facilities where the consumption of energy is effectively managed;



facilities which make especially effective use of space;



facilities where imaginative reuse has been made of an existing building.

Change and its impact on educational building

Changes in the societal context of education as well as innovation in teaching and learning methods have implications for buildings and present a challenge to designers and managers. The Programme has two roles in response to such changes:

- to collect, analyse and disseminate information about innovation in educational building;
- to identify trends in society and education and their implications for educational buildings.

Developments in new educational technology, the growth of lifelong learning, new partnerships between education and industry, concern for the environment, and renewed interest in the school as a focus for community development all have implications which need to be addressed in the immediate future.

The categories for inclusion under this heading are:



facilities which provide for effective and innovative use of new information and communication technologies in education;



facilities which make a reality of the lifelong approach to learning;



facilities which respond to the changing role of education in the community;



facilities where an effective partnership has been created with business or industry.

restored mansion



■ ■ Italy

Beltrame Crèche and Nursery School

Beltrame Nursery School is housed in a mansion of some historical and architectural interest. Built between 1890 and 1930 by modifying and expanding existing farm buildings, the house lies in magnificent grounds with a breathtaking view over Bologna.

The house has been extensively restored and remodelled to accommodate both the nursery school and the crèche. After consulting childcare experts,

ADDRESS	via Vittorio Putti 32 40136 Bologna Italy
TELEPHONE	+39 51 330349
FAX	
TYPE OF SCHOOL	preschool
NO. OF STUDENTS	75 with 51 places in the crèche
AGE RANGE	0 to 6 years
TYPE OF PROJECT	renovation
YEAR OF COMPLETION	1995
CLIENT	Municipality of Bologna
ARCHITECT	Stefano Magagni



Above: rear aspect,
with view of city;

Right: main school
entrance.



◀ the architect has succeeded in tailoring the renovation to the needs of the school and crèche by taking into account the latest teaching methods.

The nursery school is located on the first and second floors of the mansion. Two areas have been designed for each set of pupils. The first, the classroom proper, is set aside for educational and play activities and meals. The second, the atelier or art workshop, is for specialised activities. Each atelier is different, and this allows children of different age groups and classes to mix and take part in a variety of activities.



Top and bottom: areas
for play activities;

Middle: ground floor
plan.

The ground floor and the additional building are used for the crèche. This allows the young children easy access to the school grounds. The building also has a hall for group activities such as theatre and physical recreation.

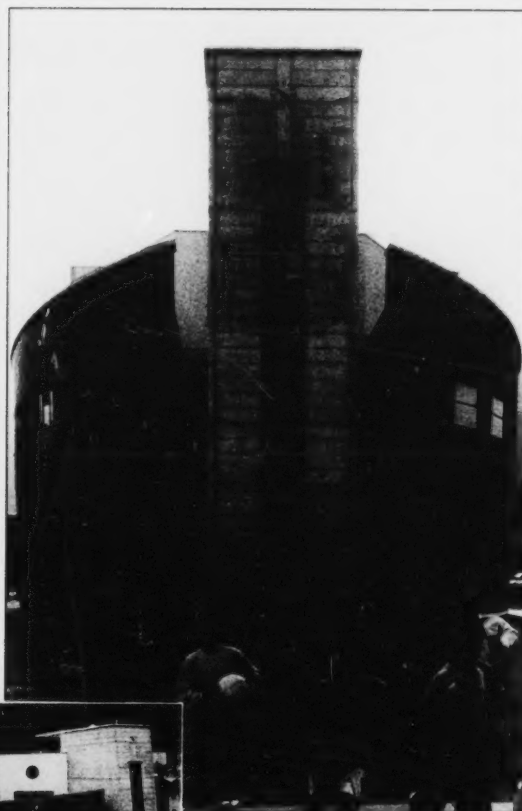
While preserving and enriching the architectural heritage of the villa, this renovation allows the teachers to provide a highly practical teaching programme, well adapted to the new curriculum. The school is very welcoming and gives a strong impression of generosity, harmony and conviviality.

integrated town centre



Switzerland

Ecoles du Centre-Ville



ADDRESS	Place du Manoir 1920 Martigny Valais Switzerland
TELEPHONE	+41 26 21 24 00
FAX	+41 26 21 24 09
TYPE OF SCHOOL	preschool, primary, special needs
NO. OF STUDENTS	450
AGE RANGE	0 to 12 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1993
CLIENT	Municipality of Martigny
ARCHITECT	Roni Roduner and Fabrice Franzetti



Top: west facade; **Above left:** northern prospect facing the park.

La Place du Manoir is in the centre of Martigny. It was created in 1985 as part of a larger development project, but no permanent buildings had been constructed on the site. An architectural competition was held to generate ideas for using the site more rationally. The brief was to produce a development that would complement the surrounding area and be part of an integrated town centre.

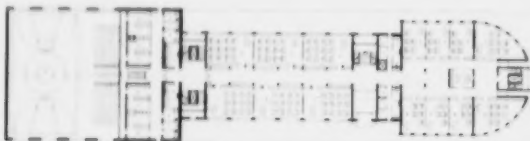




◀ The winning design included a new park, conceived as a place of tranquillity in the heart of the town. On the park's southern side, the architects proposed a multipurpose building complex. Construction followed lengthy consultations, reflecting the need to take account of the many interests in an urban setting.

The complex includes a crèche, kindergarten and primary school, a community hall, a gymnasium, a centre for the elderly, flats and a car park. It accommodates an association for handicapped children and the municipal school board. Open 24 hours a day, there are also sports facilities for karate, wrestling, judo and boxing.

Top: primary school classroom; **Middle:** east-west cross section;
Right: second floor plan.



involving the family



Italy

Centro Trovamici

Advertised as "a place for children and the family", Centro Trovamici occupies the ground floor of the Leonardo da Vinci Elementary School in the historic downtown area of Empoli. Part of the building consists of the remains of a fifteenth century Benedictine convent; another building, formerly a dance studio, has been converted into a theatre for children.

The centre provides a place for education and fun for young children to come to with their parents. It also runs extracurricular activities for children and

ADDRESS

Via Leonardo da Vinci, 18
50053 Empoli
Firenze
Italy

TELEPHONE

+39 571 707862

FAX

+39 571 707740

TYPE OF SCHOOL

preschool, childcare,
lifelong learning

NO. OF STUDENTS

around 350

AGE RANGE

1 year and above

TYPE OF PROJECT

renovation

YEAR OF COMPLETION

1992

CLIENT

City of Empoli

ARCHITECT

City Architect



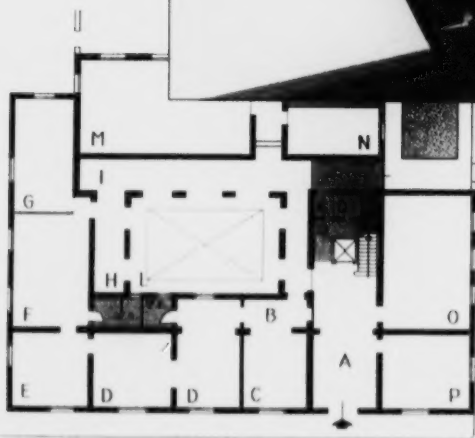
Above: public entrance to reception; **Right:** the main school building.



adolescents. Special care has been taken to make the facilities attractive both to children and to adults.

Between Tuesday and Friday, the 13 classes of the kindergarten and primary school use the computer and science laboratories, theatre, and ceramic and painting workshops. On evenings and weekends these are open for community use.

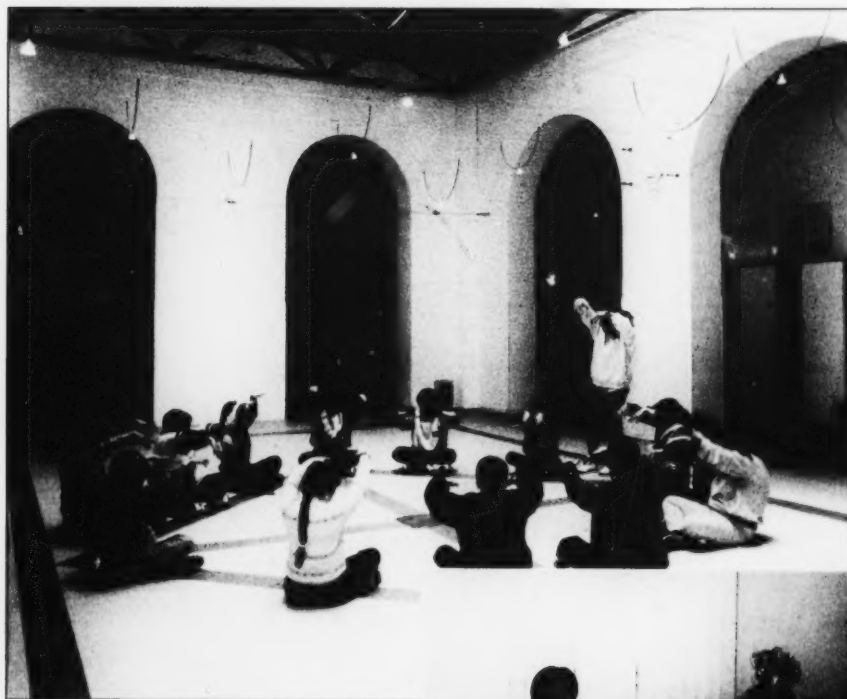
Separate, dedicated areas are provided for children under three, for those aged three to six and for those



Above: the computer laboratory; **Left:** ground floor plan.

◀ aged six to eleven. A large multipurpose room is designed for use by all.

Centro Trovamici has been established as part of a wider urban renewal strategy that seeks to improve quality of life through the restoration of the city's historical buildings and gardens. The centre has made effective use of its city centre location to pursue its teaching and social objectives of developing a flexible relationship between school, family life and leisure time.



Above: the central multi-use area; **Right:** children and adult helpers in the painting workshop.

 Belgium

Ecole Fondamentale de Saint Vith

| ADDRESS

Untere Büchelstrasse 10
4780 Saint Vith
Belgium

| TELEPHONE

+32 80 22 72 35 |

| FAX

| TYPE OF SCHOOL

preschool, primary |

| NO. OF STUDENTS

138 |

| AGE RANGE

2 to 12 years |

| TYPE OF PROJECT

new building |

| YEAR OF COMPLETION

1995 |

| CLIENT

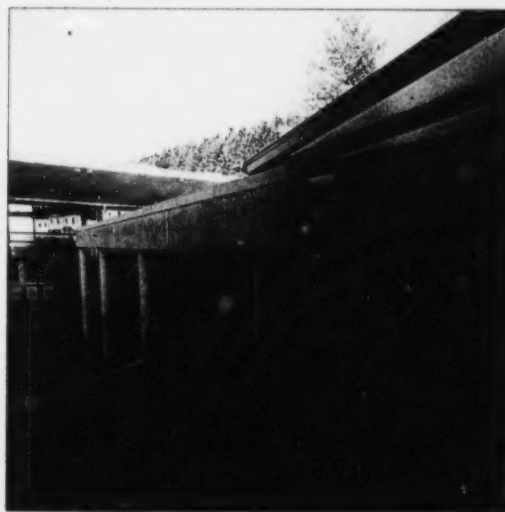
Ministerium der
Deutschsprachigen Gemeinschaft |

| ARCHITECT

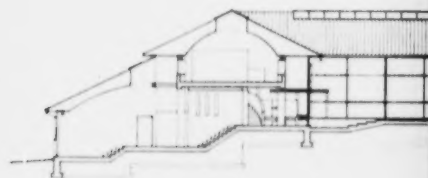
Norbert Nelles and
Fabienne Courtejoie,
ARTAU srl |

Built in an attractive rural setting, the new elementary school in St Vith is designed to take full advantage of its location. Both the internal spaces and the surrounding area are seen as learning resources, and the design emphasises the unity of the built and natural environments.

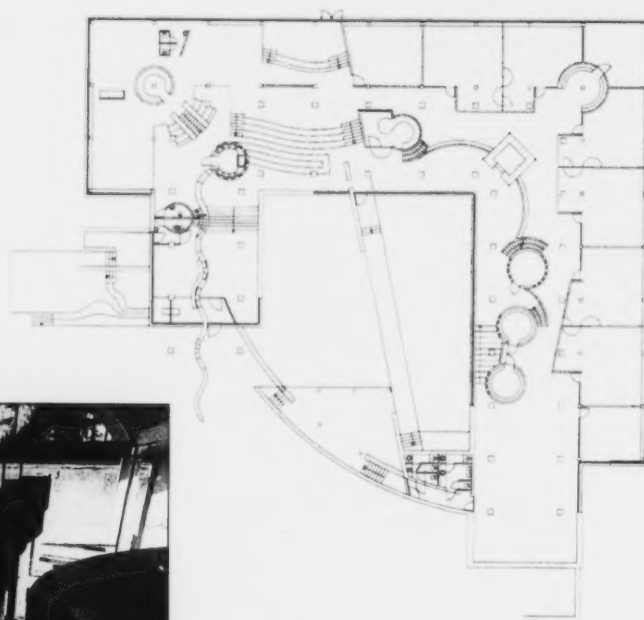
The architecture gives an impression of peace and quiet. Carefully finished stone walls and broad slate



Above: play area for primary pupils; **Left:** the wing for older pupils; **Below:** elevation.

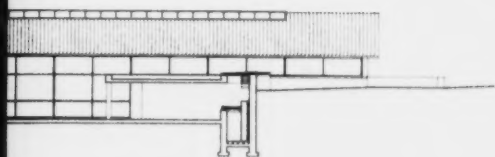


rural harmony



Above: floor plan; **Left:**
looking down to the
entrance hall.

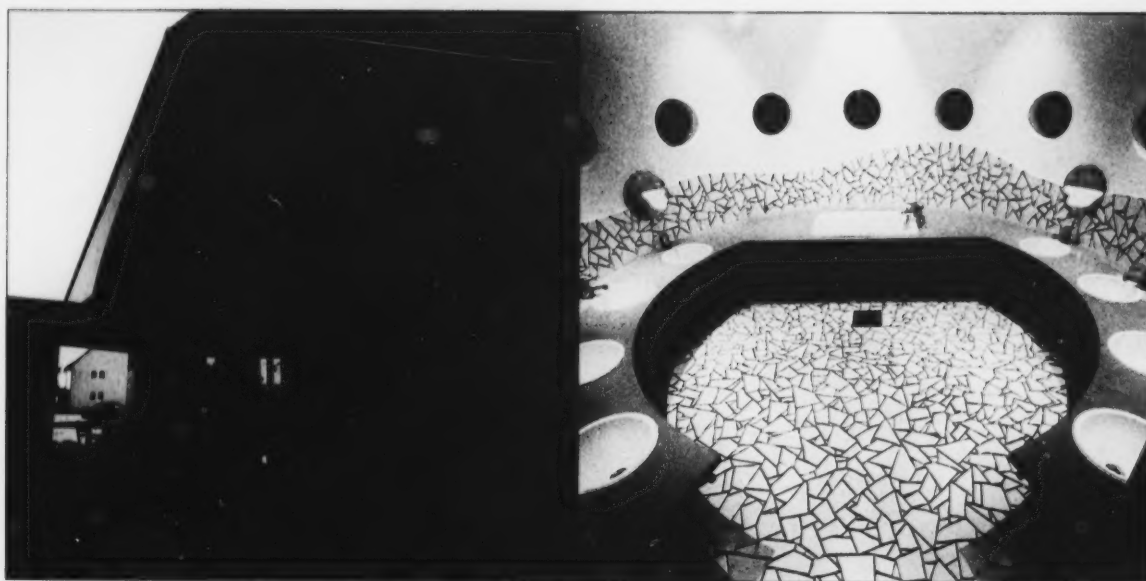
◀ roofs lend a sense of solidity and permanence. Large windows open to the courtyard and the outside world.



The nursery and the classrooms for the younger primary pupils have been housed in a wing that borders woodland. The wing for the older pupils, which also contains the gymnasium and auditorium, faces towards the secondary school and the town of St Vith, suggesting a gradual separation from the smaller child's world.



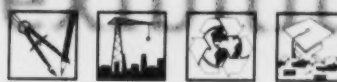
◀ The reception area and the nursery recreation area are well sheltered, so free from outside intrusion yet accessible to parents and children. The recreation area for the primary pupils is set amid the three wings of the building, forming an enclosed, partially covered, playground.



Above left: the main entrance; **Above right:** washroom.

Between the nursery school with its relatively unstructured spaces and the more strictly divided primary classrooms, a terrace opens to the outside. Old trees have been felled to make way for more diverse flora and fauna. In this way, children are provided with a natural context for their earliest years at school.

flexibility



United Kingdom

Victoria Infants School

Victoria Infants School offers an unusually wide and flexible range of spaces to meet the latest developments in the primary teaching curriculum. There are areas for science, technology, computing and food technology, specially designed for young children. Teaching takes place in open class bases linked by a shared internal, top lit "street".



ADDRESS

Queen's Road
Tipton
Sandwell
West Midlands DY4 8PH
United Kingdom

TELEPHONE

+44 121 557 1923

FAX

TYPE OF SCHOOL

preschool, primary

NO. OF STUDENTS

270 plus 45 nursery

AGE RANGE

4 to 11 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1995

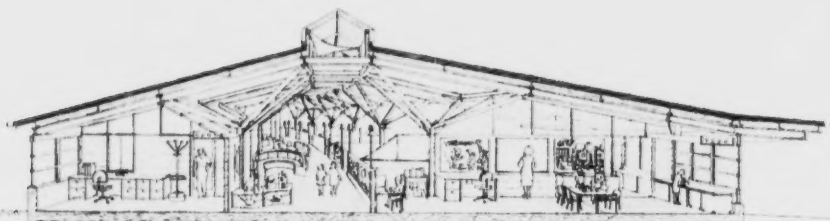
CLIENT

West Midlands
Urban District Council

ARCHITECT

Robin Bishop, Department for
Education and Employment, with
Sandwell Council Architects

Left: purpose-designed
furniture by the central
"street".



◀ The school forms part of the renewal of an old urban, industrial neighbourhood. It makes a key contribution to community life by providing two halls, a kitchen and an innovative multi-agency centre that the council uses to serve parents and the local community. It also has nursery facilities for younger children. ▶

Above: cross section;

Below: the nursery.

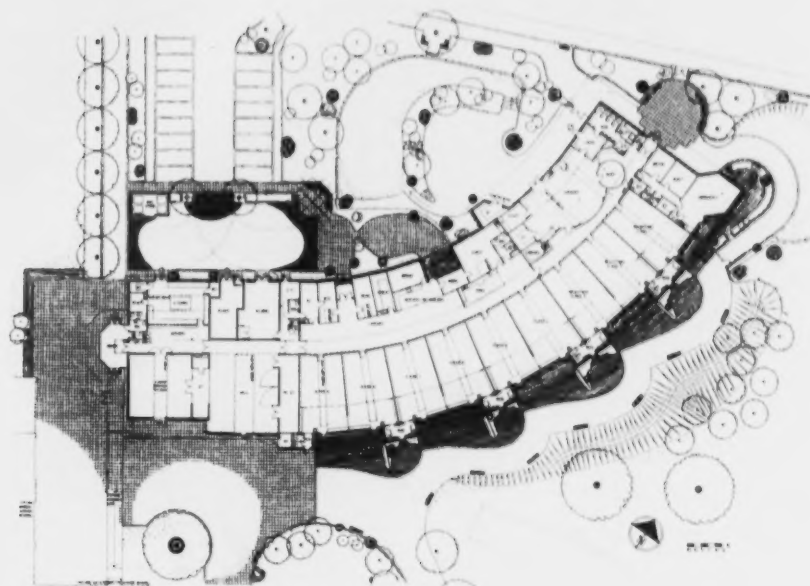




◀ The school grounds have been designed to support outdoor teaching and environmental education. They are shared with an adjoining junior school.

The building form and construction minimises energy consumption in a variety of ways, with natural lighting and ventilation of the deep plan.

Above: main community entrance; **Below:** floor plan.





United Kingdom

Woodlea Primary School


| ADDRESS

**Atholl Road
Whitehill
Bordon
Hampshire GU35 9QX
United Kingdom**

| TELEPHONE

+44 1420 476342

| FAX

| TYPE OF SCHOOL

primary

| NO. OF STUDENTS

245

| AGE RANGE

4 to 11 years

| TYPE OF PROJECT

new building

| YEAR OF COMPLETION

1991

| CLIENT

Hampshire County Council

| ARCHITECT

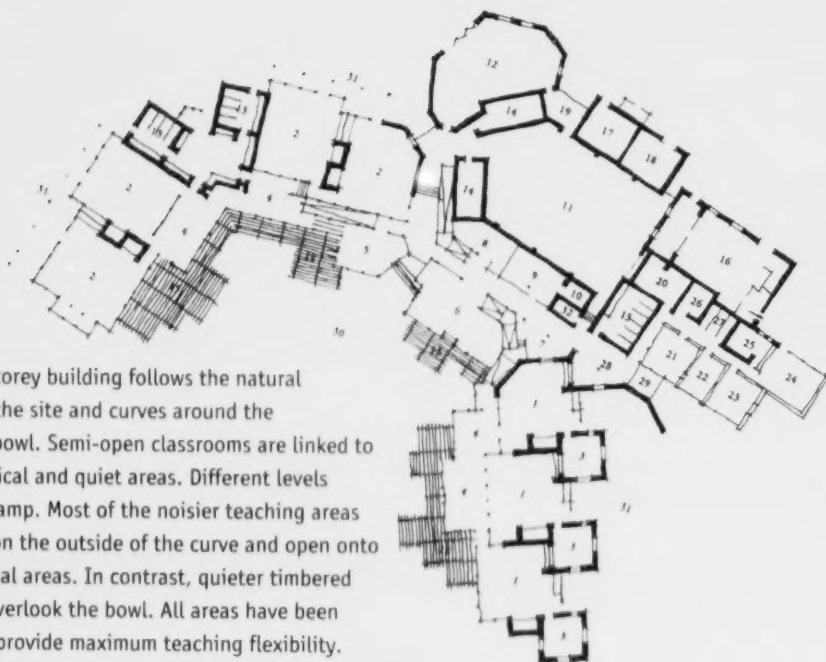
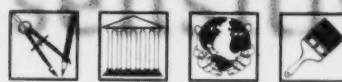
**Colin Stansfield Smith,
Nev Churcher and Sally Daniels,
Hampshire County Architects**

Woodlea Primary School is situated in a swathe of rich woodland running down steeply from ancient Iron Age earthworks. The school is built in a natural bowl and its form, plan and substance have their origin in this landscape. The choice of materials and the natural features of the site have been exploited to produce a building that is supportive of the educational programme yet aims to be visually inventive.



Above: view
of the school
from the bowl;
Left: contour
model.

environmental sensitivity



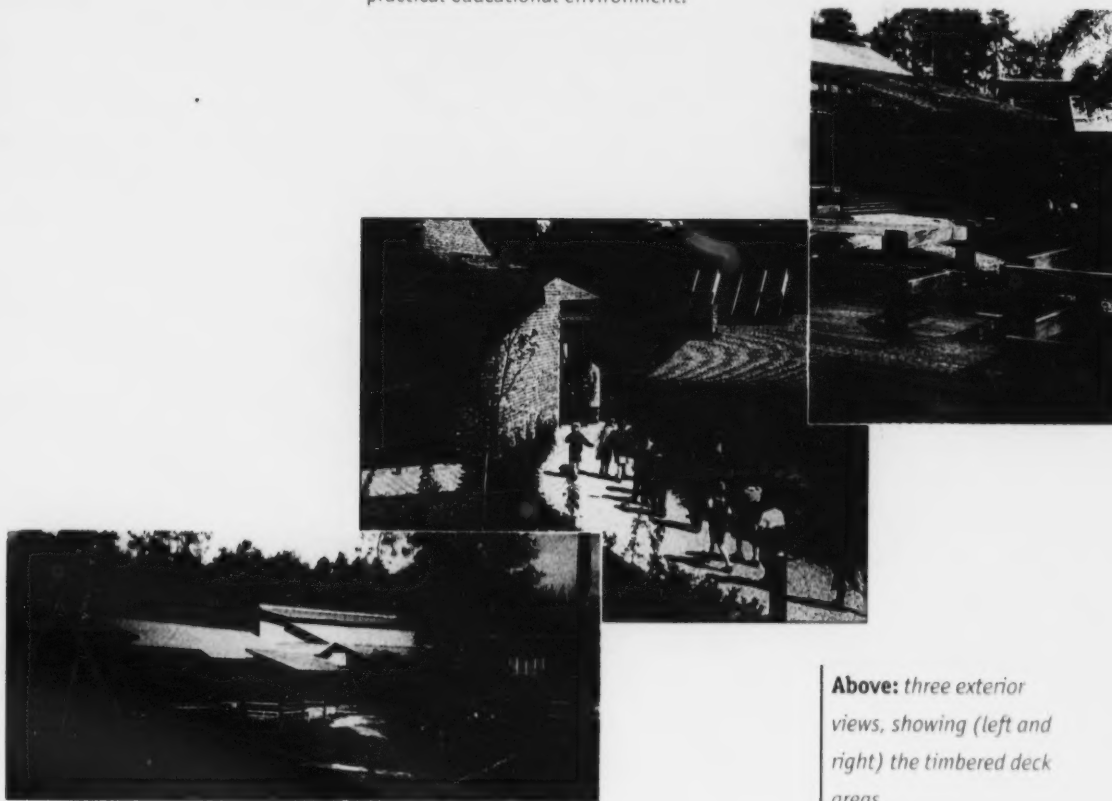
◀ The single-storey building follows the natural contours of the site and curves around the landscaped bowl. Semi-open classrooms are linked to shared practical and quiet areas. Different levels connect by ramp. Most of the noisier teaching areas are located on the outside of the curve and open onto paved external areas. In contrast, quieter timbered deck areas overlook the bowl. All areas have been designed to provide maximum teaching flexibility.



Above: site plan; **Left:** a quiet area looking into one of the classrooms.

The link between the building and the landscape is reflected in the extensive use of timber, brick and tile. High standards of natural lighting have been achieved through the use of roof and high-level glazing. Energy consumption has been minimised by taking account of the microclimate and passive solar energy management, together with high standards of insulation.

Children at Woodlea are encouraged to take an interest in their natural environment as a learning resource. The site supports the teaching programme and environmental education. Planted with species native to the area, it includes play areas and a wildlife pond, and is linked to the adjacent woodland. The design has ensured a balance between conservation and the provision of a valuable and practical educational environment.



Above: three exterior views, showing (left and right) the timbered deck areas.

In 1993, Woodlea Primary School received the Royal Institute of British Architects' award for building of the year.

above the shops

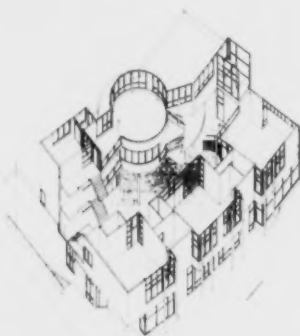


The Netherlands

Het Kompas, Deventer

Located in the old town centre of Deventer, Het Kompas replaces an older school that had become run down. Although larger than necessary for the number of pupils it served, the rooms were not suitable for modern education. To solve the problem of a shortage of development land, and to make the project financially viable, the new school has been integrated with commercial shops into a modern building.

Shops occupy the ground floor of the building. The school itself is housed compactly on the two floors



ADDRESS

Broederenstraat 16
Deventer
Netherlands

TELEPHONE

+31 570 611 216

FAX

TYPE OF SCHOOL

primary

NO. OF STUDENTS

134

AGE RANGE

4 to 12 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1992

CLIENT

Stichting het Bestuur der St
Bernardusscholen, Deventer

ARCHITECT

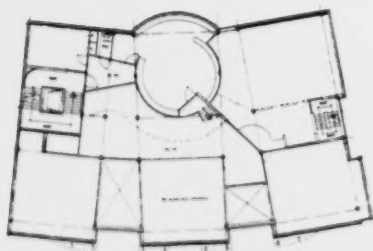
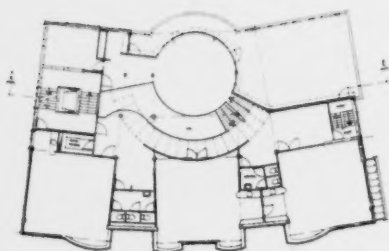
Kristinsson



Above: bird's-eye view;

Left: street view of the school above the row of shops.

Right: classroom facing onto the street; **Below:** floor plans; **Bottom:** the first floor play area.



above the shopping arcade. The classrooms are located on the street side of the building. To the rear, there is a meeting room, playroom, central hall and workshop. A sliding partition connects the playroom and central hall which can be opened to create a large space for events.

There is a gymnasium, and an open play area on the roof of the shops. The play area is planted with greenery to give this inner court a luxurious character with a pleasant, child-friendly atmosphere.

Between the classrooms there are zones for toilets and small kitchens. These are wedge-shaped, accommodating a slight bend in the street. These, together with the bow-fronted classroom windows on tall columns, produce a dynamic facade which blends well with the immediate environment.



special needs



Het Kompas, The Hague

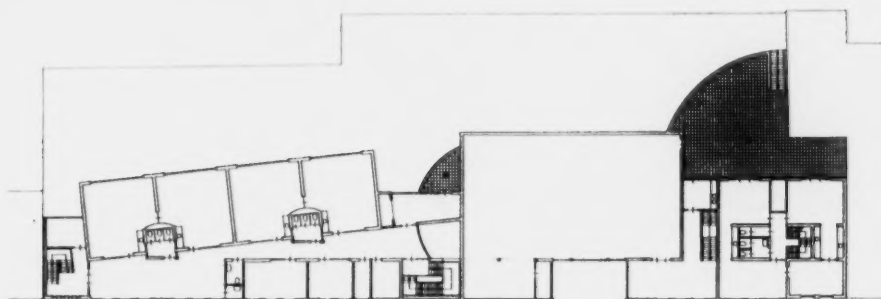
 The Netherlands



The public primary school of Het Kompas in The Hague was the 1994 winner of the Netherlands' school building prize, an award established by the Ministry of Education and Science for the architectural design and planning involved in new construction, renovation or expansion of school buildings.

ADDRESS	Da Costastraat 40 The Hague Netherlands
TELEPHONE	+31 70 36 55 010
FAX	
TYPE OF SCHOOL	primary
NO. OF STUDENTS	222
AGE RANGE	4 to 12 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1992
CLIENT	City of The Hague, Education Department
ARCHITECT	Brasser Teeuwisse Pauw Willems

Above: entrance from Da Costastraat; **Below:** first floor plan.

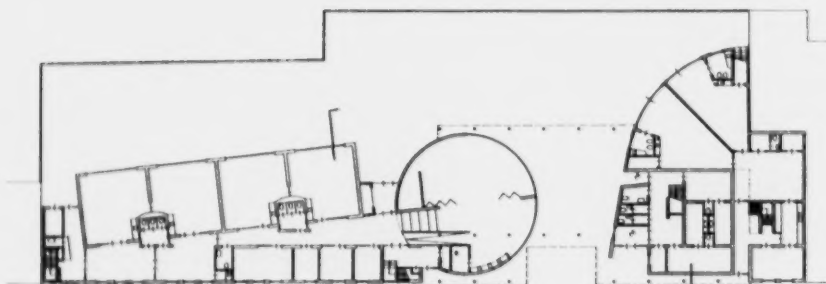




Above: the main circulation area; **Below:** ground floor plan.

With an elongated shape – the building is more than 80 metres long – the school is designed to make a positive contribution to an urban neighbourhood with many social problems. The integration of the school with the surrounding area can be seen in the fact that the auditorium, gymnasium and arts room open onto the street.

The many large windows give the school a very open impression. The main circulation area is large enough to be used for other purposes, and additional teaching spaces allow the school flexibility to respond to special needs, such as providing language learning in small groups. The building is designed to be accessible to the physically disabled and there is a daycare centre on the premises.



long-term adaptability



 Australia

Woodend Primary School



Left: exterior view of classroom units;

Below: cross section of administration and resource building.

Woodend is a new school serving a relatively young community. It was built because of the distance of other comparable schools and the growing population in the surrounding area. However, demographic projections suggest that the need for the school is only likely to be short-term. The facility has therefore been designed to allow for future use as shops and residential accommodation.

The concept of "schools in houses" has been successfully introduced elsewhere in Australia. At Woodend, however, the school has been planned and built by a private property developer. It is privately

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Sheidow Park
South Australia 5158
Australia**

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+61 8 322 6422

FAX

+61 8 322 7100

TYPE OF SCHOOL

primary

NO. OF STUDENTS

300

AGE RANGE

5 to 13 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

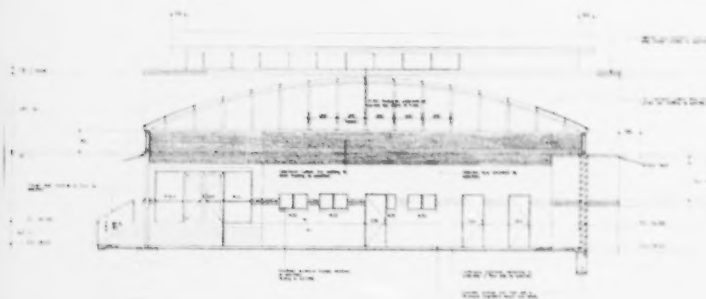
1995

CLIENT

**Department for Education and
Children's Services**

ARCHITECT

Terence Feltus



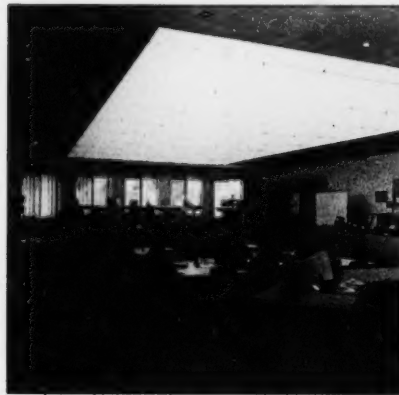
owned and leased for a fixed term to the education authorities. It is the first time the South Australian authorities have entered into such an arrangement.

The Department for Education and Children's Services had significant input in the design to ensure that the facilities would meet educational requirements in the short term. The outcome represents a negotiated balance between present and proposed uses. The architectural style has succeeded in meeting the requirements of the proposed future use yet maintaining a size and style which is not overwhelming to the users and occupants of the school.

Below left: study area in the resource centre;

Below right: activity shelter in the administration and resource building;

Bottom left: floor plans.



Built next to a shopping centre, the school houses a library, school offices, classrooms and teaching support facilities. The school's administration and resource building is designed to match the neighbouring shopping centre and to be compatible with local shops and offices. The classroom units, strategically placed to form a "street-scape" layout, are designed to be converted into two-bedroom homes.

The Department for Education and Children's Services has an initial lease for 15 years with two built-in rights of renewal, each of five years' duration. Thereafter, it is expected that the buildings will no longer be needed for education.

maori school

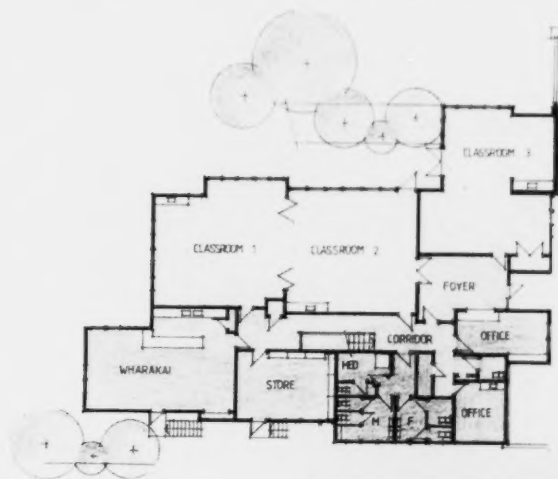


New Zealand

Te Kura Kaupapa Maori O Nga Mokupuna

Akura kaupapa Maori is a state school that provides mainstream education, but where the curriculum is delivered in the Maori language. Its purpose is to provide an acceptable alternative system of education for the Maori community, to help keep the Maori language and culture alive, and to improve educational achievement.

There are 34 state-funded kura kaupapa Maori in New Zealand. The schools are relatively small, with each



Above: first floor plan; **Right:** view of classrooms from the rear.



ADDRESS

132 Coromandel Street
Newtown
Wellington
New Zealand

TELEPHONE

+64 4 389 6606

FAX

+64 4 389 6606

TYPE OF SCHOOL

primary

NO. OF STUDENTS

60

AGE RANGE

5 to 12 years

TYPE OF PROJECT

renovation

YEAR OF COMPLETION

1994

CLIENT

Ministry of Education

ARCHITECT

Paul Bennett and Kim Baldwin,
AEdis Architects

◀ school enrolling about 60 pupils. This school, located in Wellington, is considered a model kura kaupapa Maori in terms of its design and functionality. It is a modern conversion of an unused school building.

Maori parents took an active role in the design of the school in consultation with the architect and the Ministry of Education. The community, for example, chose the lively colour schemes. Pupils feel that the school imbues a Maori feeling. There is a high level of satisfaction with the facilities.



Above: *teaching space;*
Left: *the "wharakai", the*
dining area.

There is a fully equipped dining room and two of the teaching spaces can be opened up to provide a large meeting area. This enables the school to host community meetings and traditional formal occasions. The kura therefore provides both an important educational and cultural focus for the Maori community.

prefabricated construction



 Iceland

Hvaleyrarskóli



Hvaleyrarskóli is in a newly developed and outlying part of the town of Hafnarfjörður. The single-storey school is constructed from coloured prefabricated units. It opened in 1990 and has been subsequently developed in stages as student numbers have increased.

The exposed location has influenced the design of the school, resulting in long wings that provide shelter for play areas. The form of the school separates the classrooms and recreational area of older children from those of the younger pupils. Each has its own separate entrance and playground area.

The school has three wings and is Y-shaped. The younger pupils (up to 12 years old) are housed in the first wing, the second wing has classrooms for specialised instruction and the third wing houses

Above: play areas are sheltered by the wings of the school.

ADDRESS

**Akurholt 1
IS-220 Hafnarfjörður
Iceland**

TELEPHONE

+354 565 0200

FAX

+354 565 2725

TYPE OF SCHOOL

primary, lower secondary

NO. OF STUDENTS

512

AGE RANGE

5 to 16 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1995

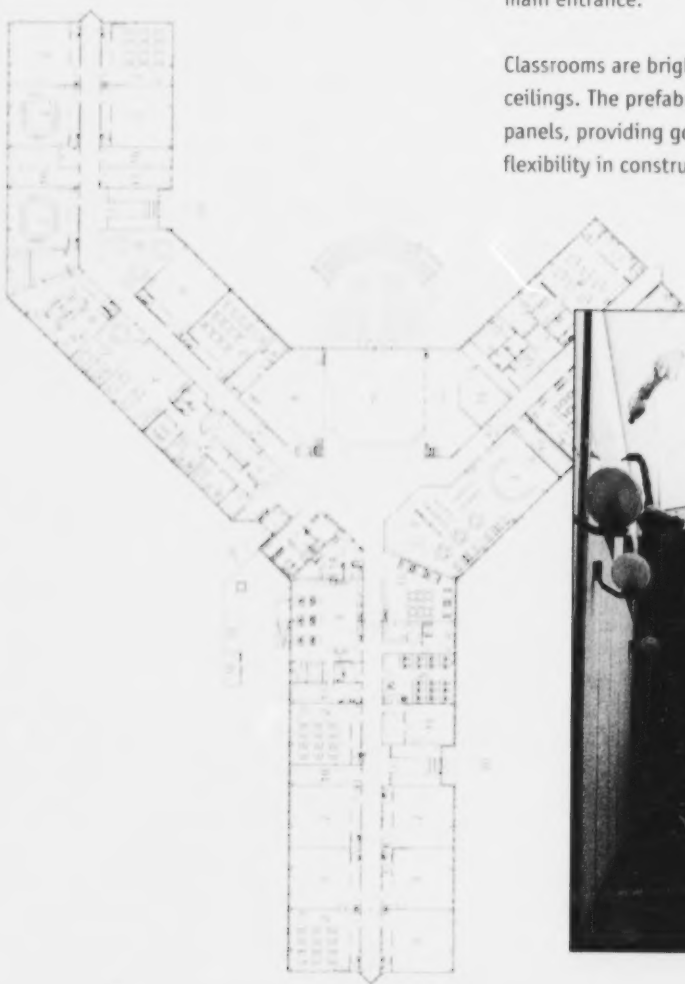
CLIENT

Hafnarfjörður Town

ARCHITECT

**Ormar Th. Guðmundsson,
Örnólfur Hall**

Below: the floor plan;
Bottom: multipurpose
room; **Right:** a corridor.



lower secondary age groups (pupils aged 13 to 16). These three arms are connected by a central area comprising a multipurpose room, a hall, a lunchroom and lounge for the lower secondary pupils and the main entrance.

Classrooms are bright and the hallways have high ceilings. The prefabricated units are made of gypsum panels, providing good noise insulation and allowing flexibility in construction.



The central spaces have movable partitions so that they can be used for a variety of school and community activities. The school aims to be a social and cultural centre, and pupils, parents and teachers co-operate on at least two projects annually. Upon their completion, recitals and readings are given at gatherings attended by parents, pupils and staff.

interior design



 Iceland

Setbergsskóli

Located in a new district with a rapidly increasing population, Setbergsskóli primary and lower secondary school can accommodate an increase in pupil numbers of up to 80 each year. When the school first opened in 1989 it had 187 pupils. Now the completed school has nearly 600 pupils who attend in two shifts.

The school is well built and architecturally pleasing. Based on a linear design, it is bright and well lit with large windows and skylights. The long hallways are used to display pupils' artwork. Each classroom has a cloakroom, washbasin and toilet facilities, a feature popular with both staff and pupils.



ADDRESS	Hlíðarberg 2 IS-220 Hafnarfjörður Iceland
TELEPHONE	+354 565 1011
FAX	+354 565 4212
TYPE OF SCHOOL	primary, lower secondary
NO. OF STUDENTS	593
AGE RANGE	5 to 16 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1993
CLIENT	Hafnarfjörður Town
ARCHITECT	Baldur O. Svavarsson, Jón Th. Thorvaldsson

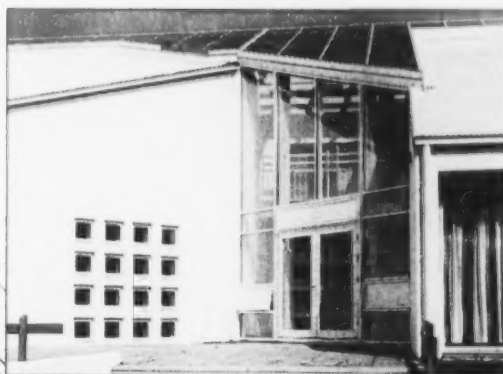
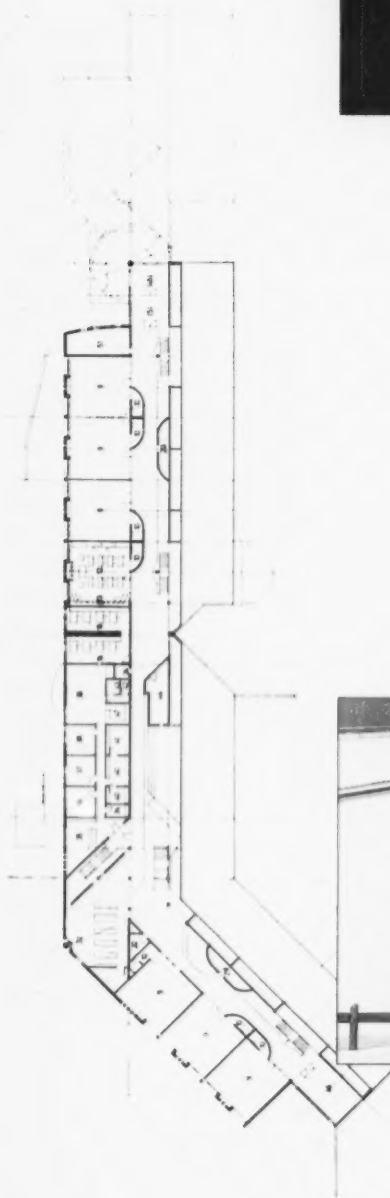
Left: view of north
facade; **Below:** linear
sweep of school building.

Right: pupils' lounge;
Below: first floor plan;
Bottom: exterior detail.



◀ There are fourteen classrooms for general instruction in addition to special classrooms for woodwork, sewing, home economics, art and handiwork. The building includes two smaller rooms for remedial instruction as well as a multipurpose room and hall for physical education. There is a small recreation lounge for pupils.

Equipment is of a high standard, and the furnishing and colour scheme of the school are co-ordinated. Matching shelving, side tables, and desks complement the building to harmonious effect. The pupils seem to appreciate the facilities and interior design; there is no vandalism and the school is well respected.




 Denmark

Torstorp skole


Architects Nøhr and Sigsgaard won an open competition in 1986 for the design of this new school. The first stage was completed in 1988. The second phase, consisting of a pre-primary school, primary school and after-school centre for children of six to nine years old, was completed in 1994. The completed school also houses a sports centre and gymnasium.

The general design concept was to provide a high level of integration between the school and surrounding residential areas. The school is the cultural centre of the community and the sports

ADDRESS	Torstorpvej 1 DK-2630 Tåstrup Denmark
TELEPHONE	+45 42 52 85 78
FAX	
TYPE OF SCHOOL	primary
NO. OF STUDENTS	9 classes
AGE RANGE	6 to 9 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1988, 1994
CLIENT	Høje-Tåstrup Kommune
ARCHITECT	Nøhr & Sigsgaard

Above: glass

covered "street";

Below: first floor
plan;



◀ facilities, workshops, library and music room are open for use by all.

Traditional school corridors and hall have given way to glass-covered "streets" and "squares", so that classrooms become houses in a small town. The streets and squares serve the public out of school hours, providing a place for social gatherings.

Built to high-quality design and construction standards, the school uses robust materials that require little maintenance. It presents a traditional Danish image, with brick walls, concrete slab floors and tiled roofs. The glass-covered areas provide a very good source of passive solar heating and heat consumption is low in all the connected rooms.

Above: the sports hall;
Below: classrooms lead out to a play area.



space utilisation



 Austria

Volksschule Köhlergasse



ADDRESS	Köhlergasse 9 Wien 18 Austria
TELEPHONE	+43 1 47 06 317
FAX	
TYPE OF SCHOOL	primary
NO. OF STUDENTS	250
AGE RANGE	6 to 10 years
TYPE OF PROJECT	new building, completed in 2 phases
YEAR OF COMPLETION	1987 and 1989
CLIENT	City of Vienna
ARCHITECT	Hans Hollein

Hans Hollein has produced a rich and unique architectural solution for a city school in a built-up area. The building occupies a tiny piece of land on a steeply sloping site, yet it meets all the space requirements for a primary school of eight classes. Making good use of the available space, it offers a great variety of teaching, study and play areas.

The main entrance is on Köhlergasse. The covered entranceway, echoing a typical pattern of the area, leads to a central hall. From here, the different parts of the school are easily reached by stairways leading up and down from the hall.



Left: play areas are located on the roof;
Above: model of the site.

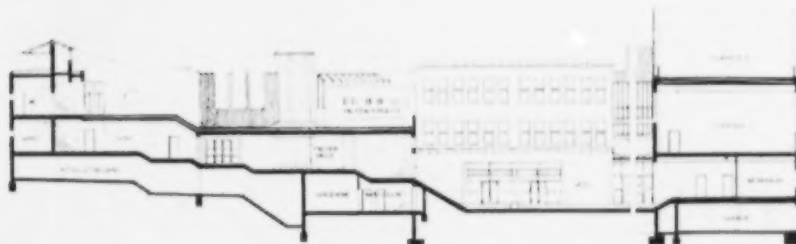
◀ The wing at the north of the school houses the office, medical room and staff rooms, with classrooms and leisure rooms on an upper level. Further classrooms are accommodated in the western wing, while to the south there is the dining hall with auxiliary rooms and some subject classrooms. The gymnasium is housed above garages and subject classrooms on the wing along Gentzgasse. There is a separate entrance here for community use of the gymnasium.

Top: roof-top view;
Middle: classroom;
Bottom: north-south cross section.



At ground level, the steepness and compactness of the site does not allow room for playgrounds or sports areas. Some open-air spaces for breaks and physical recreation are located on the roof of the building. There is also a small garden area planted with trees.

With rich and animated architecture, this building provides a remarkable infrastructure for all primary school activities. It offers a complete contrast to the "barrack-style" public sector buildings of the past.



industrial conversion



Katajanokkan koulu

Over the last 20 years, a former inner city military and shipyard area of Helsinki has been converted to residential use. Extensively renovated barracks and workshop buildings form the heart of this development and Katajanokka school has been built to serve the expanding population of the area.

The idea of placing the school in an old drill room block was first proposed in a 1972 competition aimed



ADDRESS

Laivastokuja 6
SF-00160 Helsinki
Finland

TELEPHONE

+358 0 657 8451

FAX

+358 0 3967 63901

TYPE OF SCHOOL

primary

NO. OF STUDENTS

2701

AGE RANGE

6 to 12 years

TYPE OF PROJECT

adaptation and
renovation

YEAR OF COMPLETION

1985

CLIENT

City of Helsinki

ARCHITECT

Vilhelm Helander,
Juha Leiviskä Safa

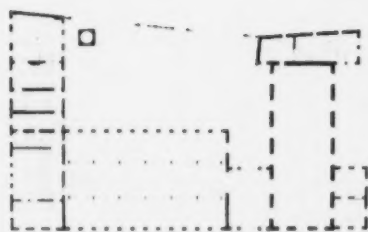
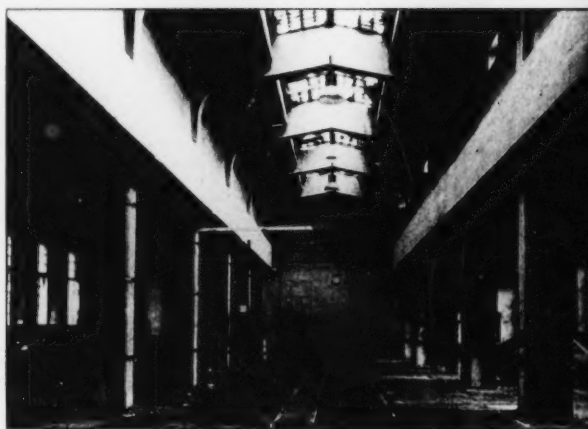
Left: restored facade and chimney; **Below:** the site before renovation.



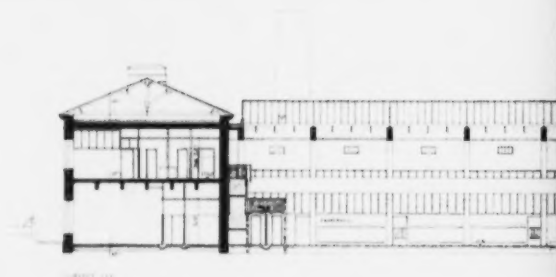


at formulating a development plan for the area. The school premises have been created partly by refurbishment and partly by new building work within existing exterior walls, dating from various periods between 1840 and 1910. The old chimney stack on the site has been restored as a monument to early Finnish industry.

A combination of old walls and spaces together with new architecture has created a well-functioning and



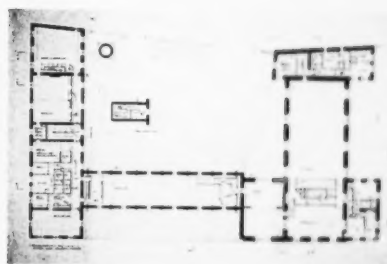
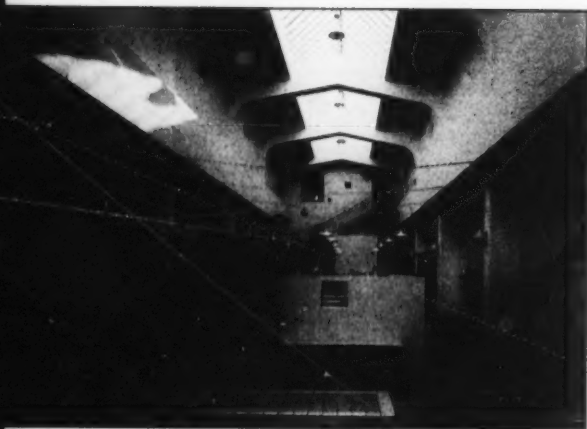
Top: north-east elevation; **Above:** ground floor plan; **Right:** cross section.





inspiring educational environment. Nine basic teaching units are housed comfortably in the buildings, whose facades have been repaired and restored. Interiors have been redecorated on the basis of the original colour schemes.

The drill hall is used as a gymnasium and assembly hall as well as for community functions in the evenings. Specialised classes such as art and music are sited in the workshop building. The heart of the



Middle: before and after views of the former machine shop; **Above:** first floor plan.





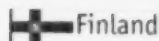
Right: view of entrance
through the yard wall;

Below: south-west
elevation.

◀ school is the former machine shop hall. This large space has been divided into classrooms, mostly separated by glass dividing walls and the spacious lobby area is lit by the original roof light.

In creating a new and varied school environment, the development has respected the industrial and military heritage of the site. It has given this once neglected area new life, serves the social needs of local people and is now open to all Helsinki residents.

woodland environment

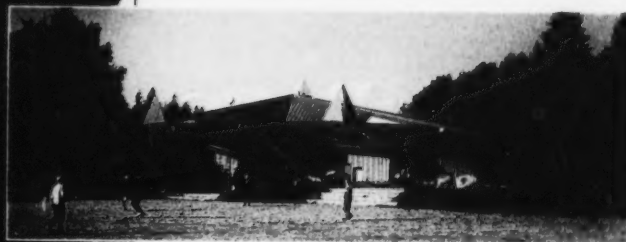


Finland

Metsolan koulu

This award-winning school is discreetly sited in the grounds of an old wooded park in Helsinki. The school has been designed to meld into this woodland setting, preserving the rare and beautiful trees, and providing urban children with a harmonious and versatile learning environment.

The undulating outside wall interacts with the surrounding forest, creating a variety of outdoor spaces close to the building. The facade has the appearance of a row of small buildings linked together. Each building has a different colour, chosen to merge into the forest surroundings. The retreating effect given by the walls also reduces the visual mass of the building.



ADDRESS	Kartanomuseontie 2 SF-00680 Helsinki Finland
TELEPHONE	+358 0 728 6411
FAX	+358 0 728 67711
TYPE OF SCHOOL	primary
NO. OF STUDENTS	180
AGE RANGE	6 to 12 years
TYPE OF PROJECT	new construction
YEAR OF COMPLETION	1991
CLIENT	City of Helsinki
ARCHITECT	Bitumi Manner

Above: exterior views
showing the school's
woodland setting.

◀ Built on uneven ground, the building has been terraced into three levels. The lowest level is for the gymnasium; the next level includes the changing rooms, stage and classrooms for technical work, music and handicrafts. The highest level includes the main classrooms and group activity rooms. The roof has been designed to include an opening on to a central patio.

The courtyard of the circular building is encircled by a light-filled corridor, reducing the distances between ▶

Right: the main corridor;

Below: a group activity room; **Bottom:** elevation showing exterior modelling.

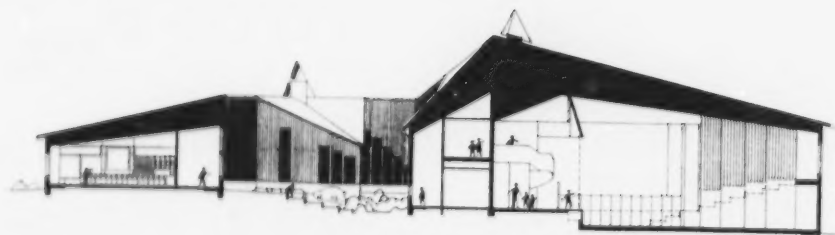


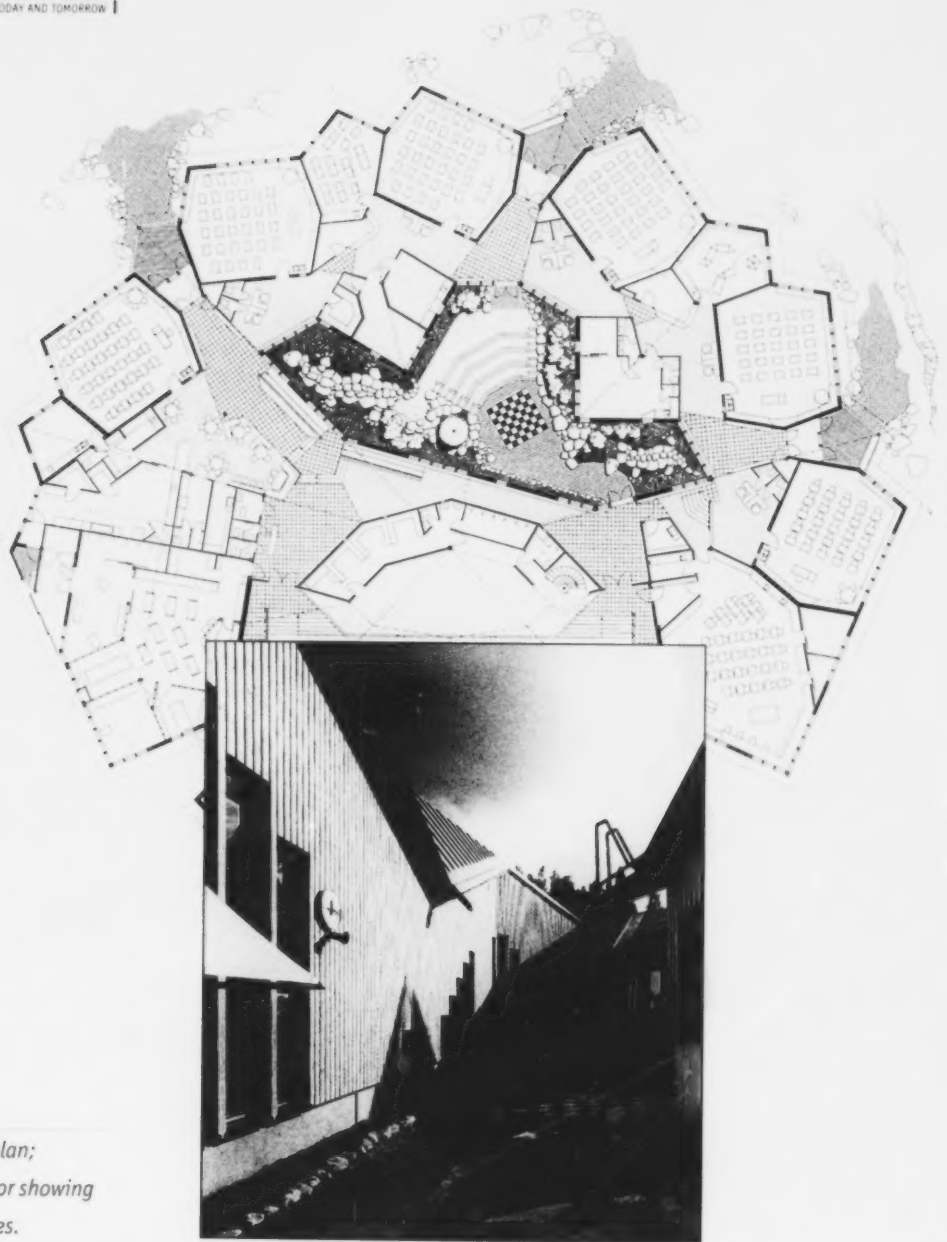
rooms. This corridor forms a series of small lobbies off the entrances and classrooms. These extend the school's usable teaching space outside the classrooms, making the corridor a suitable area for leisure and small group activity.

The angled front walls of the classrooms increase blackboard visibility nearly threefold and their hexagonal form means that different teaching situations are easier to set up.



Above: the sports hall;
Left: a lobby off the
corridor; **Below:** cross
section.





Above: site plan;
Right: exterior showing
 the roof angles.

◀ In spite of its versatility, the building is fairly simple in construction and conception. All roof angles are the same both inside and out. Each building has its own colour with the same shade being used on the walls of the corridor. This makes it possible for even the youngest pupils to find their classrooms. The convertible nature of this multipurpose building supports a programme of child-centred learning.

cultural heritage

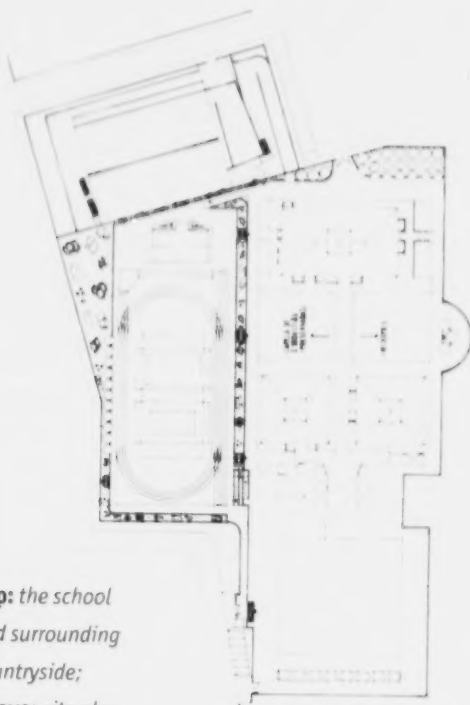


■ Portugal

Escola de Mértola

Traces of Celtic, Roman, Christian, Jewish and Arab cultures can be found in and around the city of Mértola. Built in an archaeological conservation area, the new primary and secondary school lies on the site of a Roman necropolis. A sixteenth century chapel once stood in the grounds. Today, the remains of several tombs are still visible.

The new school replaces two older buildings that had fallen into disrepair. It reflects a strong desire to reflect and complement the architectural heritage and the surrounding environment, both through the design of its buildings and the way these are used in the learning process.



Top: the school
and surrounding
countryside;

Above: site plan.

| ADDRESS

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7750 Mértola
Alentejo
Portugal

| TELEPHONE

+351 86 62803/4 |

| FAX

+351 86 62805 |

| TYPE OF SCHOOL

primary, secondary |

| NO. OF STUDENTS

700 |

| AGE RANGE

6 to 14 years |

| TYPE OF PROJECT

new building and extension |

| YEAR OF COMPLETION

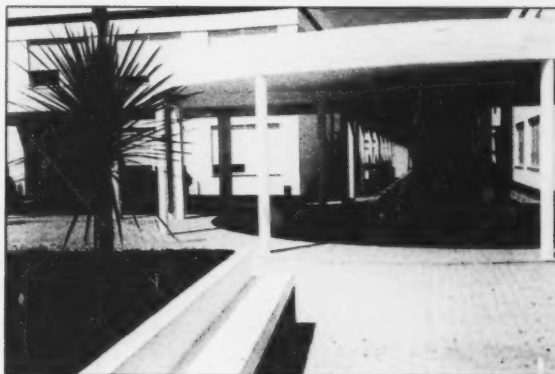
1992 |

| CLIENT

Ministry of Education |

| ARCHITECT

Anabela Gomes de Carvalho,
João Girbal and José Filipe Ramalho,
Regional Education Office, Alentejo



◀ The aim is to create a living museum, where students can develop an understanding of how the past has shaped both their surroundings and their culture. Pupils undertake a series of projects which bring to life the local archaeology, history and environment.

Some 500 pupils come from the surrounding villages and the school is trying to build links with these communities. There is a community centre on the school campus and there are plans to make use of a nearby church for cultural activities.

Above: *passageway running to the courtyard;*
Below: *teaching block.*

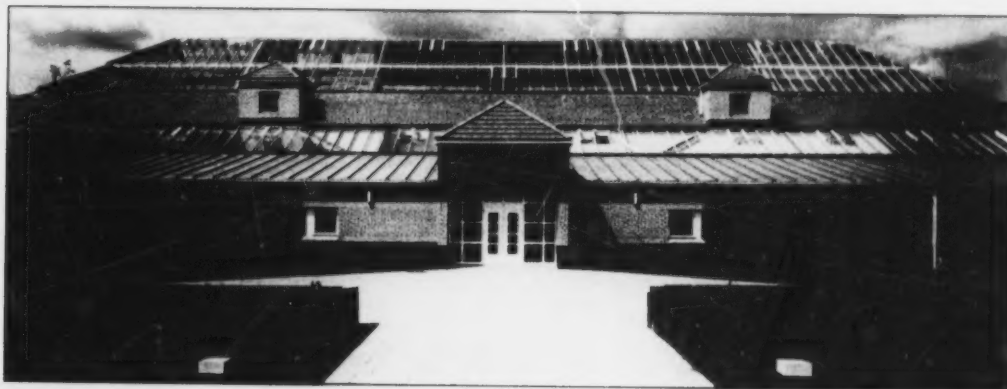


solar energy

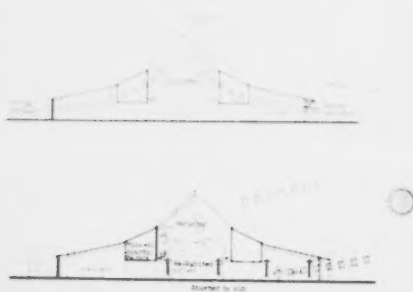


United Kingdom

Methilhill Primary School



This new primary school received substantial funding from the European Union for its pioneering approach to passive solar design. The building is designed to enable the effective management of energy consumption and reduce reliance on mechanical systems. Built on the site of a former farm, the 16 classroom building accommodates 464 pupils. It also functions as a social and recreational centre for the local community, both during and after school hours.



Above: summer and winter operation of the passive solar system.

ADDRESS

Sea Road
Methilhill
Leven
Fife KY8 2JW
United Kingdom

TELEPHONE

+44 1333 320 721

FAX

TYPE OF SCHOOL

primary

NO. OF STUDENTS

464

AGE RANGE

7 to 12 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1991

CLIENT

Fife Region
Education Department

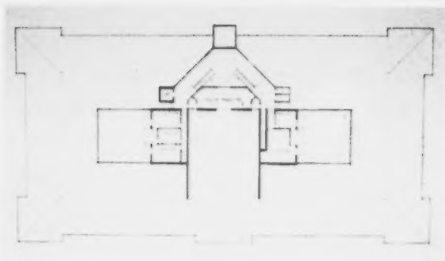
ARCHITECT

Ron Tremmel,
Director of Property

◀ The building layout is open plan with class areas grouped around two central courtyards. Unlike previous schools in the area, these courtyards are covered so that they can be used as teaching spaces for most of the year.

The building is arranged along an axis 35° east of south so that it receives the early morning sun and continues to benefit from available sunlight throughout the day. The longitudinal axis is aligned to the prevailing wind. This enables adequate ventilation to take place and minimises the winter chill factor. The windows on the facade, the clerestory glazing and the atrium roof give high levels of ▶

Below left: first floor plan; **Below right and bottom:** the central courtyards under the atrium roof.





◀ daylight in the occupied part of the building, reducing the need for artificial light.

Top right: glazing and vents in the roof; **Above right:** ground floor plan; **Above left:** teaching area.

The glazed areas also allow direct and reflected solar radiation to contribute to heating the class and hall areas in winter. Air in the roof space, warmed by direct solar radiation entering the atrium, acts as a source of input air for the mechanical ventilation system serving various internal rooms. Under optimum conditions this can make a significant contribution to space heating. Auxiliary heating is provided by a gas-fired boiler, radiators in the internal rooms and underfloor heating pipes in the courtyards.

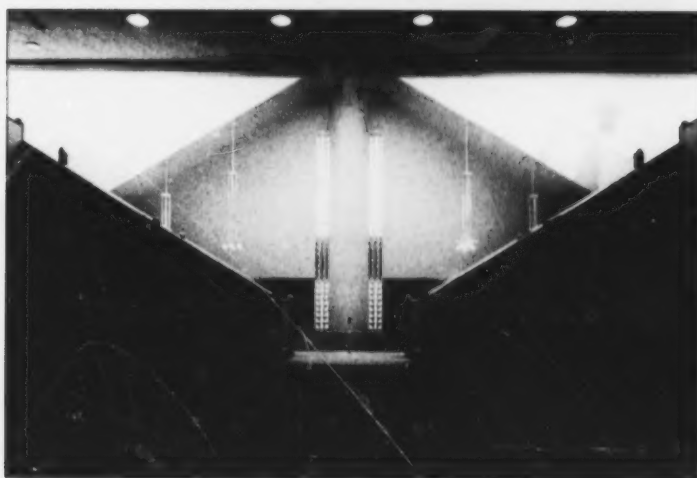
Ueno Elementary School

● Japan

ADDRESS	6-16-8, Higashiueno Taito-ku Tokyo Japan
TELEPHONE	+81 3 384 5356
FAX	
TYPE OF SCHOOL	primary
NO. OF STUDENTS	316
AGE RANGE	7 to 12 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1991
CLIENT	Taito Ward Board of Education
ARCHITECT	Shouzoh Uchii

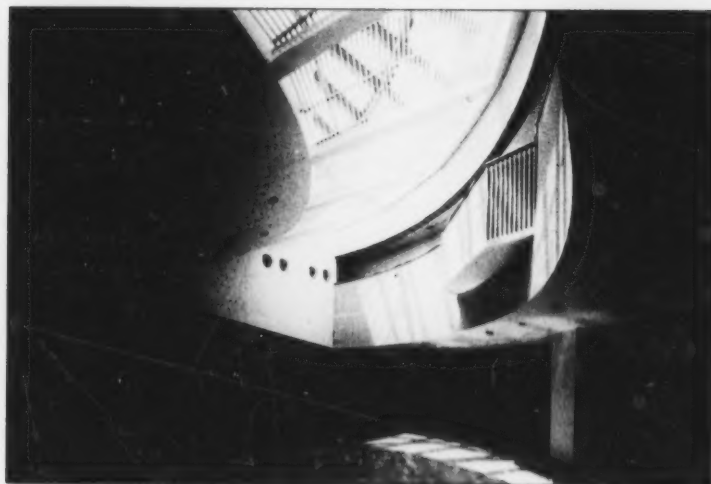
Built in a high density suburb of Tokyo, Ueno Elementary School makes good use of its restricted site. The available land area is fully used, with the buildings extending to the fringes of the site. A large, functional and very attractive area at the centre of the project provides an impression of space.

The buildings are designed for use by the whole community. As well as the primary school, there is a daycare centre, kindergarten and community centre on the site. The school is also one of the principal centres for lifelong learning in Taito-ku.

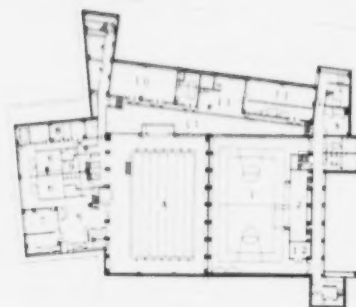


Above: view from the street; **Right:** library corner.

urban integration

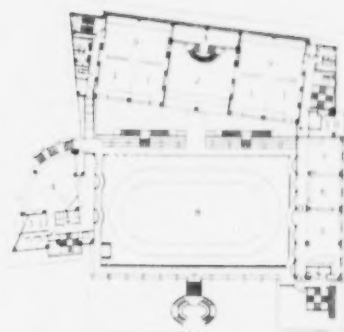


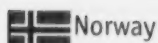
Left: multipurpose room for community education;
Below left: computer room; **Below right:** floor plans: basement (top), second floor (lower).



◀ The layout allows the school to adopt a variety of teaching methods. In the main school building, there are classrooms for six grades. Each classroom is adjacent to an open space designated for group and individual learning and equipped with personal computers. The main building also houses the library and a learning resource centre. The school is able to receive satellite broadcasts and there is a separate computer room for community use.

By offering a wide range of social, sporting and cultural facilities, the school plays an important role in the local urban community. Its facilities include an indoor swimming pool, gymnasium, library, concert hall and medical centre.





Norway

Askrova skule

| ADDRESS

6923 Tansoy
Flora kommune
Norway

| TELEPHONE

+47 57 745 130 |

| FAX

| TYPE OF SCHOOL

preschool, primary |

| NO. OF STUDENTS

20 (plus 10 in
the kindergarten)

| AGE RANGE

7 to 13 years |

| TYPE OF PROJECT

new building |

| YEAR OF COMPLETION

1991 |

| CLIENT

Flora kommune |

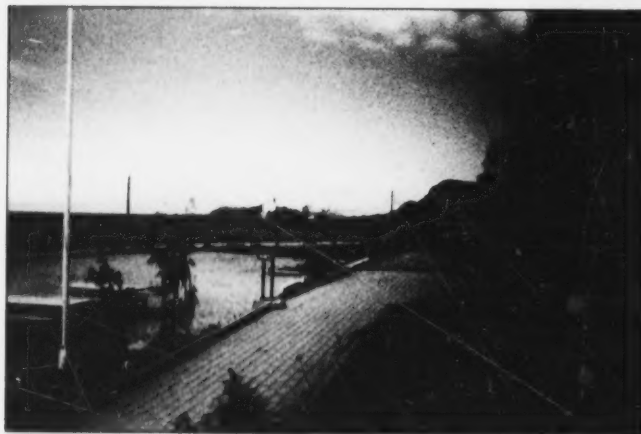
| ARCHITECT

Kjell Hareide |

Right: the front of the
school, facing the sea.

Askrova is a small island off the west coast of Norway. Located in the isolated fjord district, the island is a thirty minute sea journey from the small town of Florø. There are 150 residents.

Built on the remains of an old school building destroyed by fire in 1989, the new school has been designed to integrate a primary school with a kindergarten. In order to maintain continuity, the stone walls from the cellar of the old school have been retained in the basement of the new building.



The school has been oriented to maximise the use of natural light. The building faces the shoreline but occupies a relatively sheltered position on this exposed coastline, tucked into the base of a steep hill. This position helps protect it from strong prevailing winds.

The entrance leads directly into the main communal hall linking the school and kindergarten. A loft area

small community school



overlooks this space and is used as a platform, stage and a quiet place for group work. The school divides its pupils into two groups. Two classrooms provide a base for these groups, one for children aged 7 to 10 years and the other for those aged 11 to 13 years. A separate playroom is used by the kindergarten.

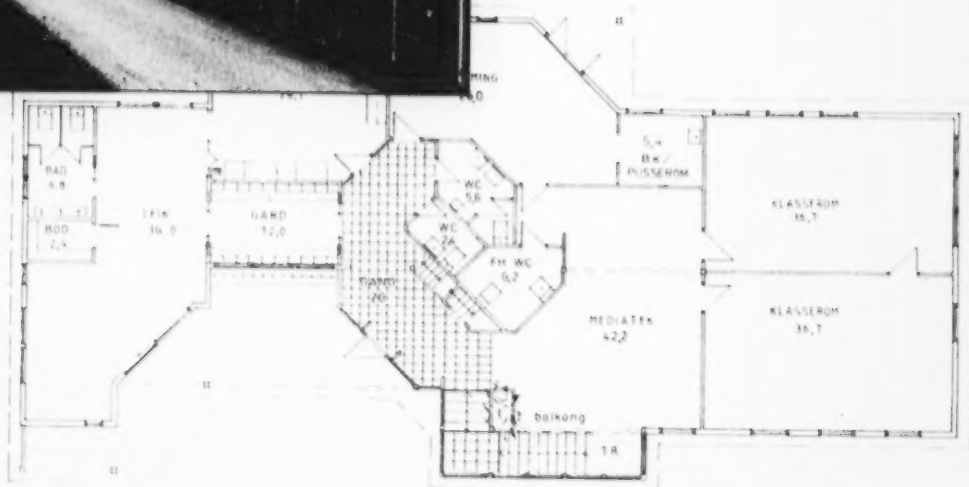
There are two outdoor areas. The lower area is a playground for the older children and for ball games. The higher area, outside the entrance, is softer surfaced and has a roof and walls on three sides. It provides shelter from gales and storms.



Above: a playroom;

Left: the location;

Below: floor plan.



 Austria

Schul-Haus-Boot Bertha von Suttner

ADDRESS	Donauinselplatz Vienna 21 Austria
TELEPHONE	+43 1 271 40971
FAX	+43 1 271 68651
TYPE OF SCHOOL	secondary
NO. OF STUDENTS	1 000
AGE RANGE	10 to 18 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1994
CLIENT	Federal Ministry of Education and Cultural Affairs
ARCHITECT	Bernhard Muller



At the beginning of the 1990s, the city of Vienna needed to set up new schools quickly to meet new demand caused in part by an influx of refugees from the former Yugoslavia. The authorities were faced with the challenge of finding available sites, financing land purchase and then building, within a few years, facilities for thousands of pupils.

An original and exemplary solution to this problem is a floating school. Set on the Danube river, Schul-Haus-Boot Bertha von Suttner is one example of this novel kind of school. Based in a purpose-built boat, it is made up of a number of pontoons that are closed

Above: the school's permanent mooring;

Below: view from across the Danube.



floating school



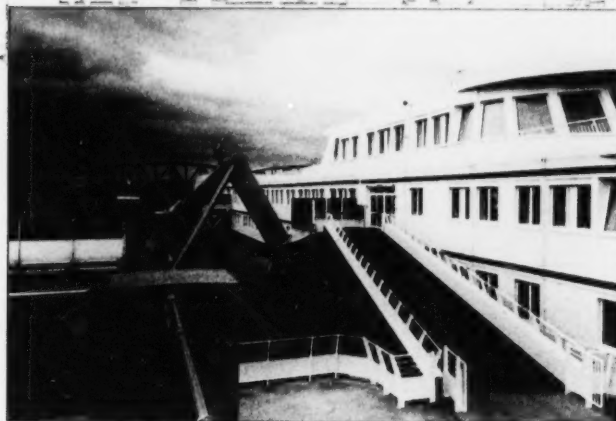
on all sides and linked by a covered way. There is full and safe access for the disabled with lifts connecting one level of the boat to another.

The internal organisation of the houseboat is based on existing space schedules for all schools. Spaces have been allocated for school administration, science, technical subjects, music, humanities and sports. The gym, work-out room and changing areas are located in a separate section to avoid disturbing classes in progress. The library is housed alongside a conservatory to provide a meeting space with quiet areas that can be used during study breaks.

Above: elevation;

Below: first deck floor

plan; **Bottom:** the access ramp.

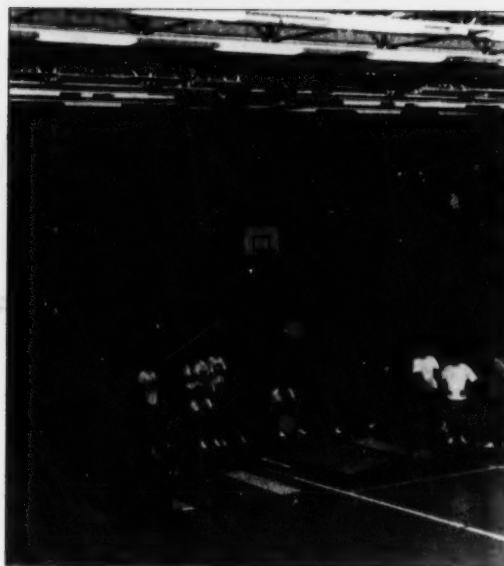


◀ Built by the Korneuburg shipyard, the school-boats can be constructed within 22 months. Their specification respects all building regulations on land as well as those pertaining to ships. The total cost of the houseboat school is about a third less than that of an equivalent school built on land. Energy consumption is reduced by extracting heat from the Danube.

By setting schools on the Danube river, Vienna has solved the problem of finding suitable land for schools. The idea has attracted interest from several other education authorities.



Far left: second deck floor plan; **Left:** a classroom; **Below:** the gymnasium.



rural development



United Kingdom

Linclate Community School



This imaginative project has developed the traditional concept of a secondary school to provide a wide range of facilities for a remote, and relatively deprived, rural island community. The result is a successful amalgamation of educational, cultural, vocational, social and leisure services.

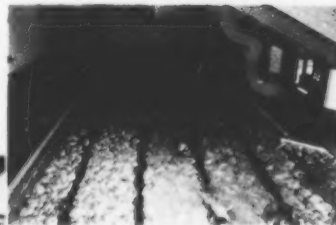
The new school is situated on the island of Benbecula. It is at the geographical centre of its catchment area, which includes neighbouring islands. It provides post-16 education, and as a result older pupils no longer need to leave home and board at the secondary school on the Isle of Lewis to continue their studies.

Top: view of school;
Above: east-west cross section.

ADDRESS	Benbecula Western Isles HS7 5PJ United Kingdom
TELEPHONE	+44 1870 602211
FAX	+44 1870 602817
TYPE OF SCHOOL	secondary
NO. OF STUDENTS	570
AGE RANGE	11 to 18 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1988
CLIENT	Western Isles Island Council
ARCHITECT	John Patterson, Director of Architectural Services

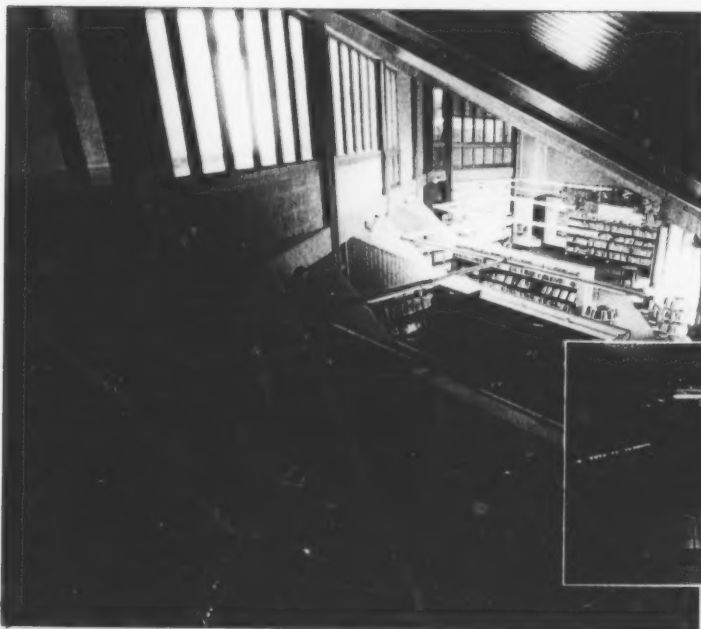
◀ The building provides a focus for the whole community. In addition to the school, facilities include a public library, museum, swimming pool, sports hall, theatre, cafeteria, daycare centre, dental surgery and doctors' consulting room, and a hostel for 60 weekly boarders. The building is open from 9 a.m. to 9 p.m. and, where places are available, adults may attend the same classes as children.

The school has been designed to ensure that it withstands the rigours of an exposed coastal site. Particular attention has been paid to energy use. A compact building form helps to reduce energy consumption. Energy control measures include a building management system, low temperature underfloor heating, a 60 kW wind generator and a standby generator.



Above: dining area; **Top right:** swimming pool; **Right:** ground floor plan.





55

Collège du Plan du Loup

France

ADDRESS

63, chemin du Plan du Loup
69110 Sainte Foy les Lyon
France

TELEPHONE

+33 72 16 70 90

FAX

+33 78 59 73 90

TYPE OF SCHOOL

lower secondary

NO. OF STUDENTS

653

AGE RANGE

12 to 16 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1994

CLIENT

Rhône Departmental Council

ARCHITECT

Pierre Vurpas et associés

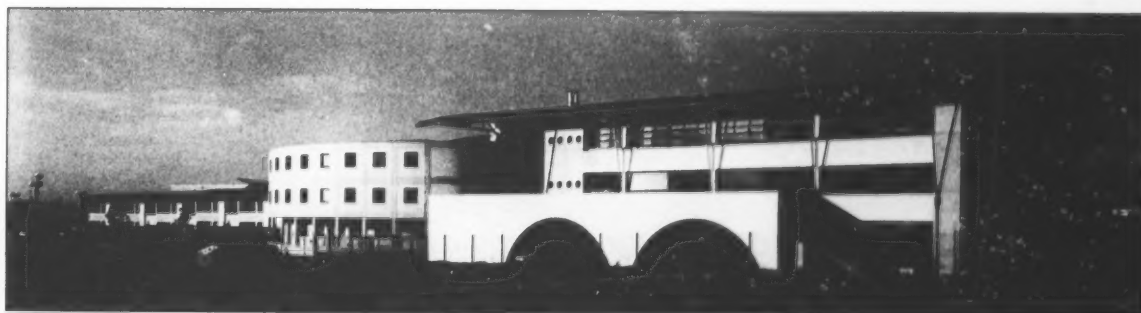
Set in the south-western suburbs of Lyon, this school caters for 550 pupils aged 12 to 16 in four academic levels and 100 pupils in special classes for those with learning difficulties. The new building replaces an old school that had become dilapidated and uncomfortable and, largely because of its metal structure, no longer met safety requirements.

The winning project in a competition organised by the Rhône Departmental Council, construction of the new



Right: in the atrium;

Below: south facade with main entrance (to left).



public consultation



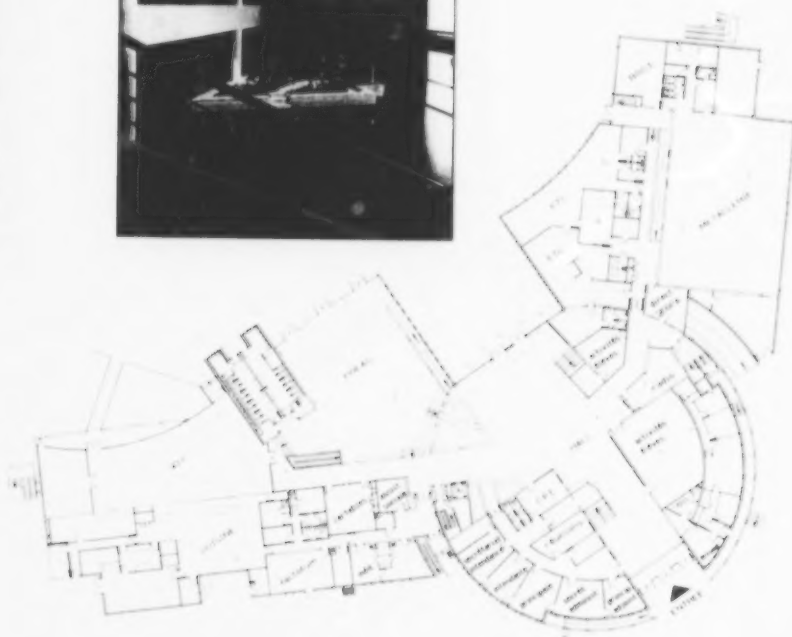
school followed extensive public consultation and represents a strong response to the urban planning problems of the area. The aim was to create a modern facility where comfort and utility combine to form a pleasant working environment.

Below: corridors linking the atrium with one of the wings;

Right: view of the atrium;

Bottom: floor plan.

The school provides a new focus for the surrounding area. Its situation next to the old school building involved the replanning of the external areas. A footpath follows the access road as far as a





landscaped public square which becomes the focal point of the new site. The school forms the backdrop to the square. The new building has a strong architectural identity and dominates the site.

Functionally straightforward, the new school is easy to understand. The atrium, the heart of the building, marks both the transition between inside and outside and the crossroads for all the main internal circulation routes. A glass canopy runs from the entrance to the inner courtyard. Inside, all the services are located on two floors: reception, administration, documentation centre and common rooms for pupils and teachers.

Across the courtyard, and opening onto it, are the gymnasium and restaurant. The special education centre is also on ground level, in order to allow its pupils to join in easily with the life of the school. The main classrooms are located in the wings of the building on two levels linked by the atrium. Between the two wings lie the recreation area and the sports field.

Top: science laboratory;
Above: the entrance hall;
Below: west elevation.



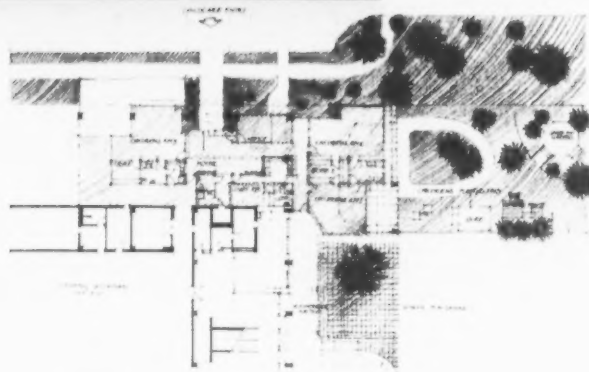
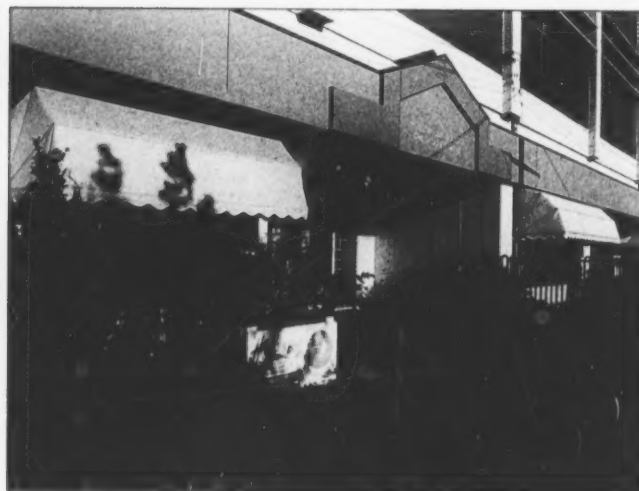
onsite crèche



 Australia

Hobson's Bay Secondary College

The childcare centre at Hobson's Bay Secondary College is an autonomous unit, physically separated from the main building. Built as part of the A\$ 3 million redevelopment of the college, it is the first public sector college-based daycare centre provided for teachers' children in the state of Victoria. The redevelopment also involved a complete renovation of the school as well as the construction of an A\$ 1 million technology centre.



| ADDRESS

88 Graham Street
Albert Park
Melbourne
Victoria 3206
Australia

| TELEPHONE

+61 39 690 1633 |

| FAX

+61 39 696 7169 |

| TYPE OF SCHOOL

preschool, secondary,
continuing education |

| NO. OF STUDENTS

crèche for 35 children |

| AGE RANGE

crèche for children up to 5 years
college for 11 to 19 years |

| TYPE OF PROJECT

adaptation and new building |

| YEAR OF COMPLETION

1992 |

| CLIENT

Hobson's Bay Secondary College
School Council |

| ARCHITECT

Housing and Construction
Department, Victoria |

Above: portico entrance
to childcare centre;

Left: site plan.

◀ The centre provides care for children under the age of six years, for up to twelve hours a day. There is provision for 35 children in three rooms. The first room is a nursery for ten infants, the second room is available to ten children of 2 to 3 years, the third can accommodate fifteen 3 to 5 year-olds.

Designed to provide a space that feels like an extension of each child's family environment, the centre makes optimum use of the available natural light. This has been achieved by careful design of the ceiling profile and by using clerestory lighting and domelights.



As well as being used by teachers, the centre is also open to the local community, allowing women with young children to return to college or to continue their education. It is used in the evenings for professional development and during school holidays it offers a childcare facility for adults attending short courses.

Hobson's Bay Secondary College has become a unique educational setting; the school is linked with further education and provides adult education. The school also plays an important role in providing professional development to teachers, particularly in technology studies.

light and glass



■ ■ Belgium

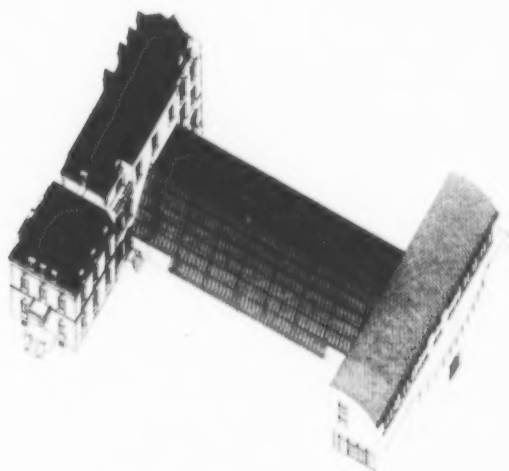
Institut Notre-Dame de Jupille



Left: renovated study room in original school;

Below: elevation showing the three elements of the extended school.

Set in a public park, the newly renovated and extended Institut of Notre-Dame has three elements. Complementing the original building, a new "cultural wing" has been built containing a library, dining room and activity rooms. Designed as a resource for



| ADDRESS

47, rue Charlemagne
4020 Jupille
Liège
Belgium

| TELEPHONE

| FAX

| TYPE OF SCHOOL

secondary

| NO. OF STUDENTS

670

| AGE RANGE

12 to 18 years

| TYPE OF PROJECT

reconstruction

| YEAR OF COMPLETION

1993

| CLIENT

Institut Notre-Dame de Jupille

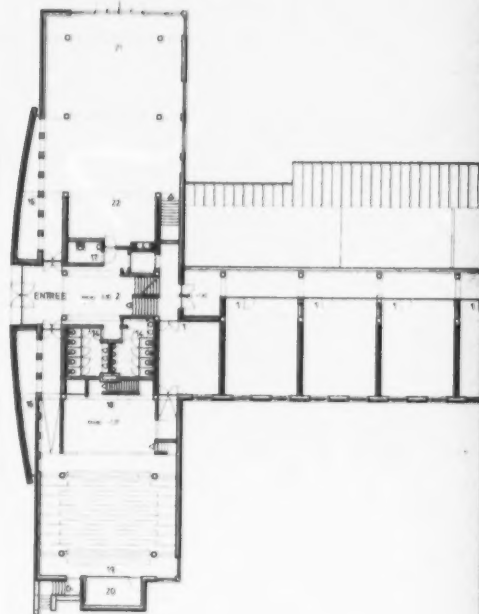
| ARCHITECT

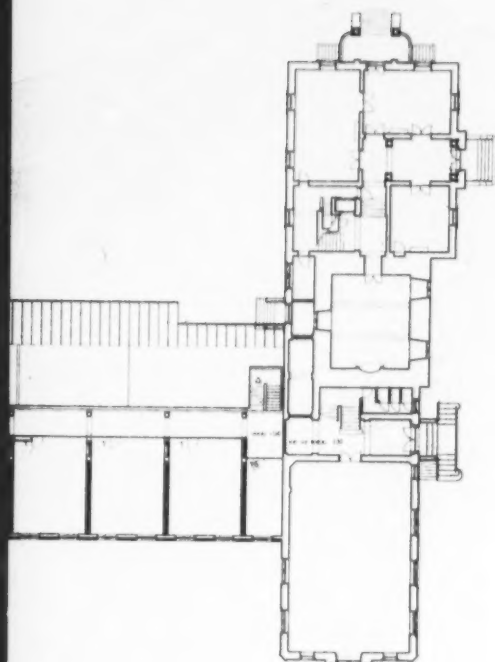
Philippe Frere, l'arch' en ciel

the school and the community, this new wing has a separate entrance for public access. The third element of the school is a dramatic glass "greenhouse" which links the two main buildings.

The "greenhouse" has been designed to preserve as far as possible the unity of the park. The effect of the glass is to maintain the visual link between the two sides of the park separated by the school buildings. Yet it also provides the school with additional space. There are a number of classrooms partly below ground

Right: ground floor plan;
Below: the old wing and
 the new "greenhouse";
Far right: art class and
 circulation route inside
 the "greenhouse".

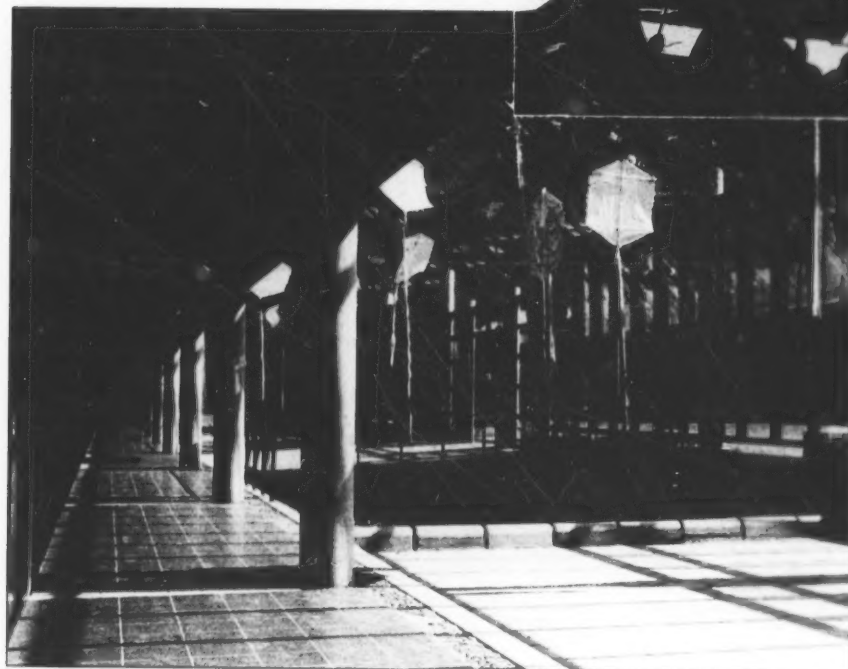




0 5 10 15 m

level which are lit by the glass canopy. At the upper level, there is a large and flexible space.

Although a striking building, the central "greenhouse" section was simple to build, uses reliable materials and is very easy to maintain. Both construction and recurrent maintenance costs are relatively low. With a load-bearing concrete frame, the internal partitions are easy to move and replace, so allowing considerable flexibility in the arrangement of the teaching areas.



Johan de Witt College

 Netherlands

ADDRESS

Helena van Doeverenplantsoen 3
The Hague
Netherlands

TELEPHONE

+31 70 36 24 684

FAX

+31 70 36 03 076

TYPE OF SCHOOL

secondary,
vocational education

NO. OF STUDENTS

1 830

AGE RANGE

12 to 18 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1991

CLIENT

Stichting Scholengemeenschap
Zuidwalland, The Hague

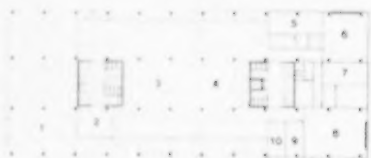
ARCHITECT

Campman, Tennekes, De Jong

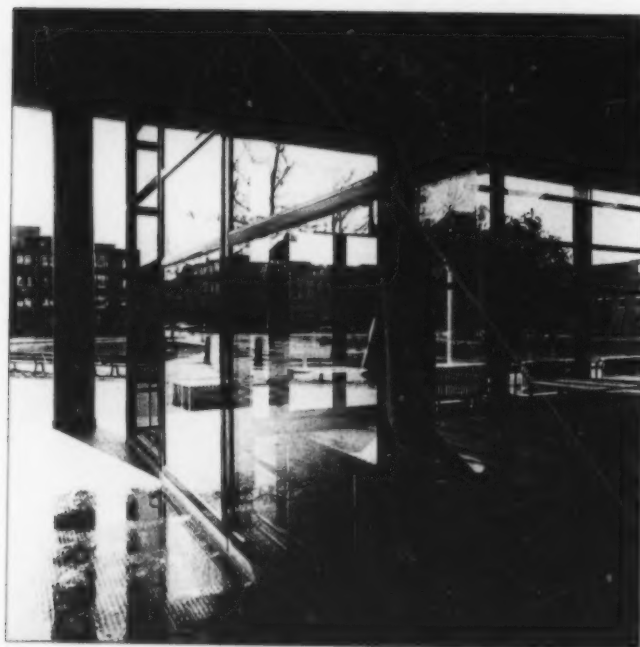
Located in an area known for its many social problems, Johan de Witt College has been built alongside a small public park set among three- and four-storey housing. The original plan for a 20-storey building met with fierce local opposition. Following consultation on a new design, this initial resistance changed to constructive co-operation with the project. Now, the community is proud of the school.

The new school is housed in a three-storey building facing the park. On the ground floor, there is a large covered area which can be used as an auditorium and area for group activities. This is designed to compensate for the lack of a schoolyard. The classrooms are on the upper levels and are grouped around study areas for independent work. Lightwells bring daylight down to the centre of each floor. Sports facilities are situated above a public car park in a separate building across the street.

Right: view of school
from across the park;
Below: ground floor
plan.



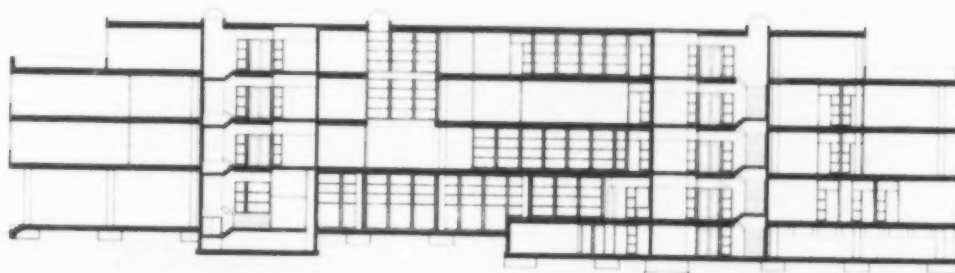
inner-city school



All photographs courtesy Michel Boesveld

◀ In 1992, Johan de Witt won the Ministry of Education and Science's school building prize for its architectural design. Judges commended the clarity of the architectural concept and noted that the design succeeded in exploiting the site and town planning constraints to positive advantage. With 90 per cent of the student population of non-Dutch ethnic origin, the school has brought tangible benefits to the neighbourhood.

Above: the school entrance; **Below:** cross section of building.





Greece

Vouliagmeni Gymnasium

ADDRESS

**Ektoros and L. Kavouriou Street
Vouliagmeni
Athens
Greece**

TELEPHONE

+30 1 9670 9678

FAX

TYPE OF SCHOOL

secondary

NO. OF STUDENTS

270

AGE RANGE

12 to 18 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1994

CLIENT

Municipality of Vouliagmeni

ARCHITECT

Spelios Agiostratidis

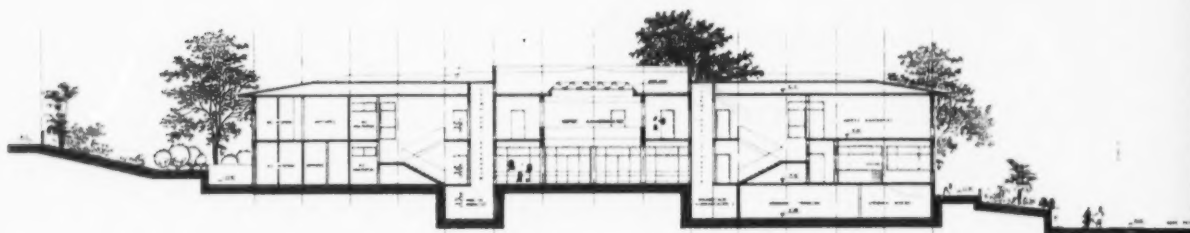
The Secondary School of Vouliagmeni has been built in a 500-acre park purchased from the Greek Orthodox Church. It lies close to a public athletics centre. The design brief was to create an educational establishment that is integrated with the surrounding natural environment and that takes advantage of the nearby sports facilities.

The site is steeply sloping and quite heavily wooded, creating problems of access between the school and the athletics centre. However, the existing natural environment has been respected and all trees have been preserved. An interplay of walls define a variety of outdoor areas. There is a main school courtyard and easy access to the park.

Right (top to bottom):

school's setting; main entrance; sports facilities;

Below: *cross section.*



an extension of the home



◀ Visually, the school complements the surrounding residential district, which is predominantly low rise with steeply inclined tiled roofing. The architect has sought to project the school as an extension of the home. Typical domestic architectural features like arcades and verandas as well as the characteristic tiled roofs have been incorporated into the building.

Internal spaces are simple and are distributed symmetrically. The building is housed on two levels. Meeting rooms, laboratories and offices are on the ground floor and classrooms on the first floor.

Instituto de Educación Secundaria con Módulos Profesionales

 Spain

ADDRESS	Pedrola Zaragoza Spain
TELEPHONE	+34 9 76 61 91 31
FAX	+34 9 76 61 91 82
TYPE OF SCHOOL	vocational education and training
NO. OF STUDENTS	750
AGE RANGE	12 to 20 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1993
CLIENT	Ministry of Education
ARCHITECT	Javier Unceta Morales, Antonio Cebrián García, Joaquín Liart Camacho



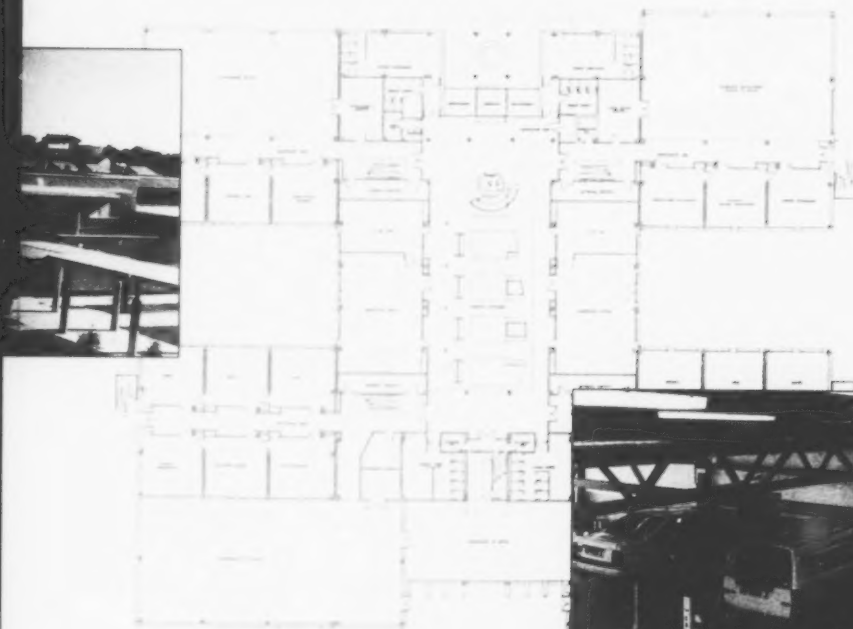
This centre is the result of a collaboration between the Spanish Ministry of Education and General Motors (Spain). With a nearby factory, the company is one of the major economic players in the central Ebro valley.

The centre provides secondary education and vocational training in electrical trades, electronics, automation, maintenance, administration and management. Some courses are held on General Motors' premises, while the centre also serves as a training centre for the company.

There are three main buildings; a school building, a workshop and a services building that includes a cafeteria and dining hall. The school building forms an H-shape. It is built on two levels, with teaching rooms radiating from a central lobby area. Each wing of the building accommodates a different discipline, and is formally and functionally independent. Noisier

Top: view of school;
Above: elevations
showing two facades.

partnership with industry



Left: ground floor plan;
Below: one of the
workshops; **Bottom:**
main entrance.



workshops are located on the outside and have separate external access.

A worthy expression of the new links existing between industry and education, the design breaks with the old idea of vocational education as a "second-class choice". Small communal lobby areas have been chosen in preference to corridors, circulation routes run along balconies rather than through enclosed corridors, and there is an abundance of natural light and greenery. The large double-height lobby is the architectural and social hub of the building.

Designed to be easily modified or extended, the centre has a simple and efficient layout, creating an effective and attractive whole. It has been built with a budget no greater than that of an average training centre.



● Japan

Fukumitsu Lower Secondary School

| ADDRESS

720 Fukumitsu-machi,
Nishi-tonami-gun
Fukumitsu-machi,
Toyama
Japan

| TELEPHONE

+81 763 52 1108 |

| FAX

| TYPE OF SCHOOL

lower secondary |

| NO. OF STUDENTS

395 |

| AGE RANGE

13 to 15 years |

| TYPE OF PROJECT

new building |

| YEAR OF COMPLETION

1993 |

| CLIENT

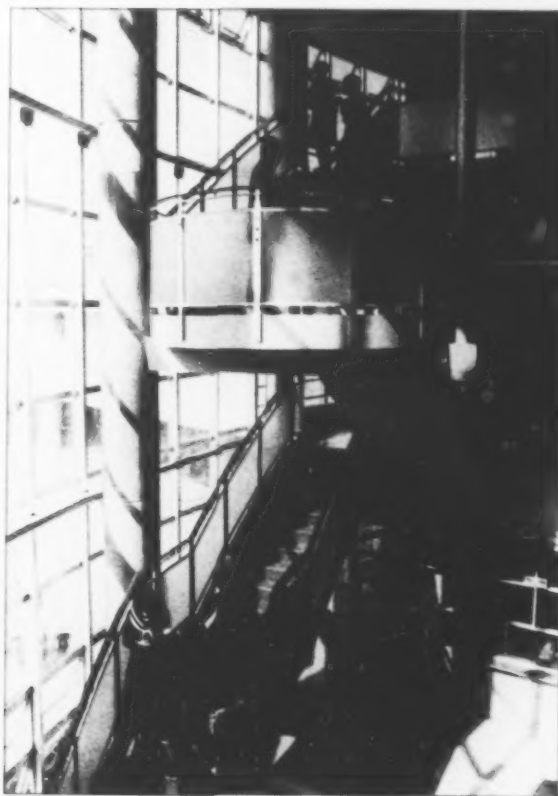
Fukumitsu Board of Education |

| ARCHITECT

Fukumi Architect and Associates |

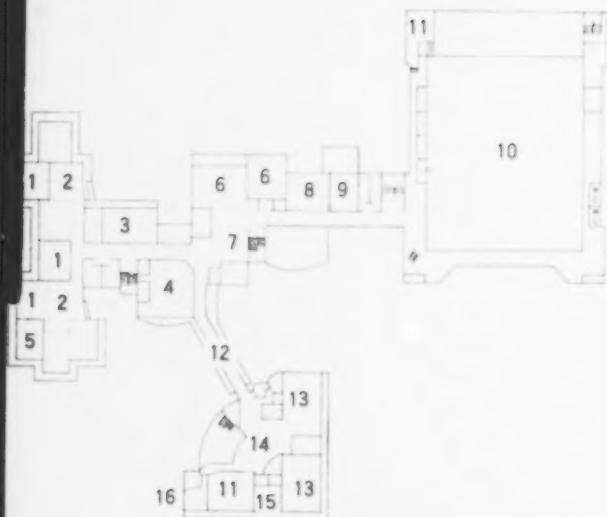
This new secondary school, completed in 1993, has been designed to be adaptable to changing educational needs. It seeks, in particular, to meet the community need for continuing education.

The way in which space is used in the school shows the special attention given to providing a welcoming environment for non-academic users. There are lounges and a hall where students and community users can meet, relax and study. These have been designed as an integral part of the site. Externally, the grounds have been landscaped with a pond and terrace to make them attractive.



Right: main stairwell
connecting floors.

lifelong learning

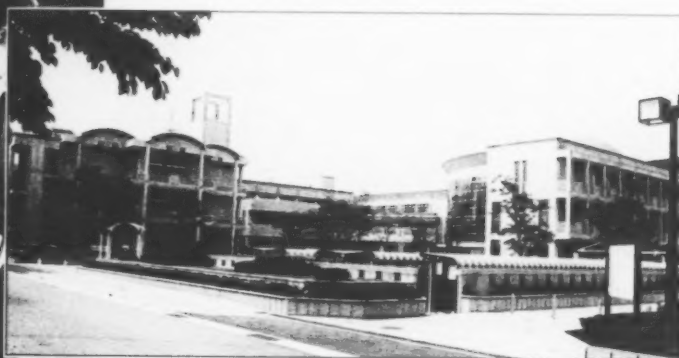


There are four main buildings; two accommodate the classrooms, one is a gymnasium and one is dedicated to arts subjects. In the main teaching blocks, there are several specialist rooms in addition to general purpose classrooms. As well as a language laboratory, there are rooms for computing, calligraphy, science, mathematics and English.

The arts block includes rooms for the secondary school, a community education centre and separate facilities for continuing education.



Top: floor plan; **Left:** the school hall; **Below:** the landscaped grounds.





New Zealand

Avonside Girls High School

ADDRESS	Avonside Drive Christchurch 6 New Zealand
TELEPHONE	+64 3 3897 199
FAX	+64 3 3899 250
TYPE OF SCHOOL	secondary
NO. OF STUDENTS	1 033
AGE RANGE	13 to 18 years
TYPE OF PROJECT	renovation and extension
YEAR OF COMPLETION	1994
CLIENT	Ministry of Education
ARCHITECT	John Warren and Associates



Right: main entrance
with restored decorative
parapets.

Following the results of a 1986 feasibility study, a decision was taken not to demolish the existing Avonside Girls High School but to upgrade facilities and strengthen the old fabric to meet required earthquake standards. The project was undertaken as a single contract over three and a half years, but divided into three stages to allow continued use of two-thirds of the school buildings at any one time.

The original school building was constructed in 1927 and several extensions had been added over the next 26 years. As each was structurally quite different, it was necessary to design a strengthening system compatible with all the construction types.

remodelling

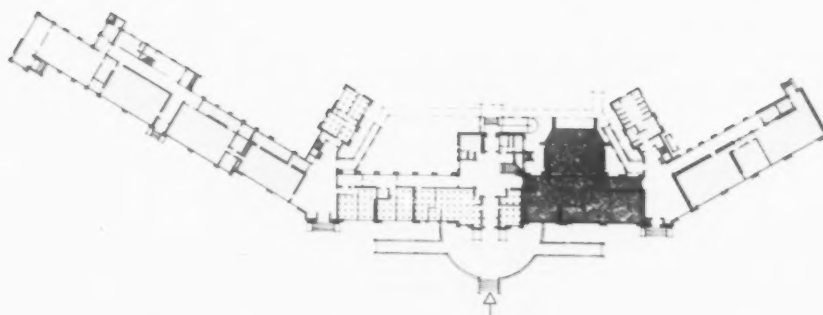


Above: the library;
Below: ground floor plan.

◀ The interior has been extensively remodelled to provide teaching spaces that fit new pedagogical models. A new central library has been built on the south side of the original 1927 section of the building. The materials used in this extension complement those of the existing walls. The school houses one computer suite on the upper level and allowance has been made for future cabling to connect different sites. The science laboratories have been modernised to promote the new science curriculum. The library, computer suite and science laboratories remain open during holidays for student and community use.

The original facade of the building has been retained, and decorative parapets removed in the 1960s because of earthquake risk have been reinstated using lightweight materials. Other historical parts of the building have been preserved, as well as existing doors, fixed lights, staircases and balustrades, and column and beam structures.

Partitioning installed over the years has been removed, opening up the original volume. Space has been regained so that pupils are able to move through foyers and along wide carpeted corridors. There is a sense of calm in the building, even at busy times, with views across the open space and out to the trees and river.



Spain

Instituto Claudio Moyano

ADDRESS

Zamora
Spain

TELEPHONE

+34 9 80 52 04 00

FAX

+34 9 80 51 21 54

TYPE OF SCHOOL

secondary

NO. OF STUDENTS

1 000

AGE RANGE

14 to 18 years

TYPE OF PROJECT

renovation

YEAR OF COMPLETION

1992

CLIENT

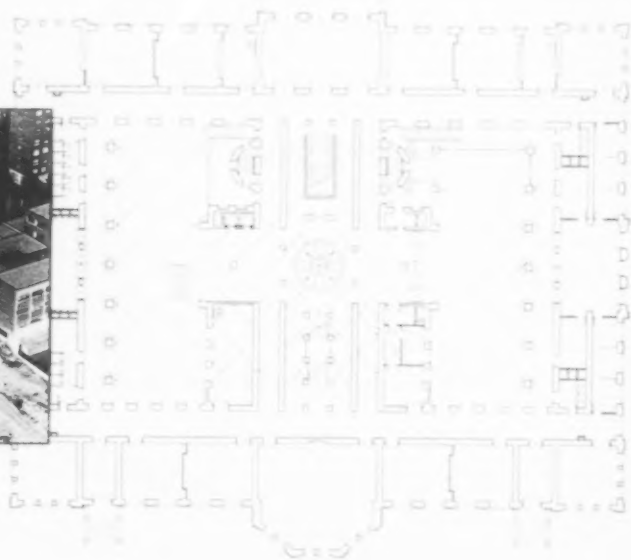
Ministry of Education

ARCHITECT

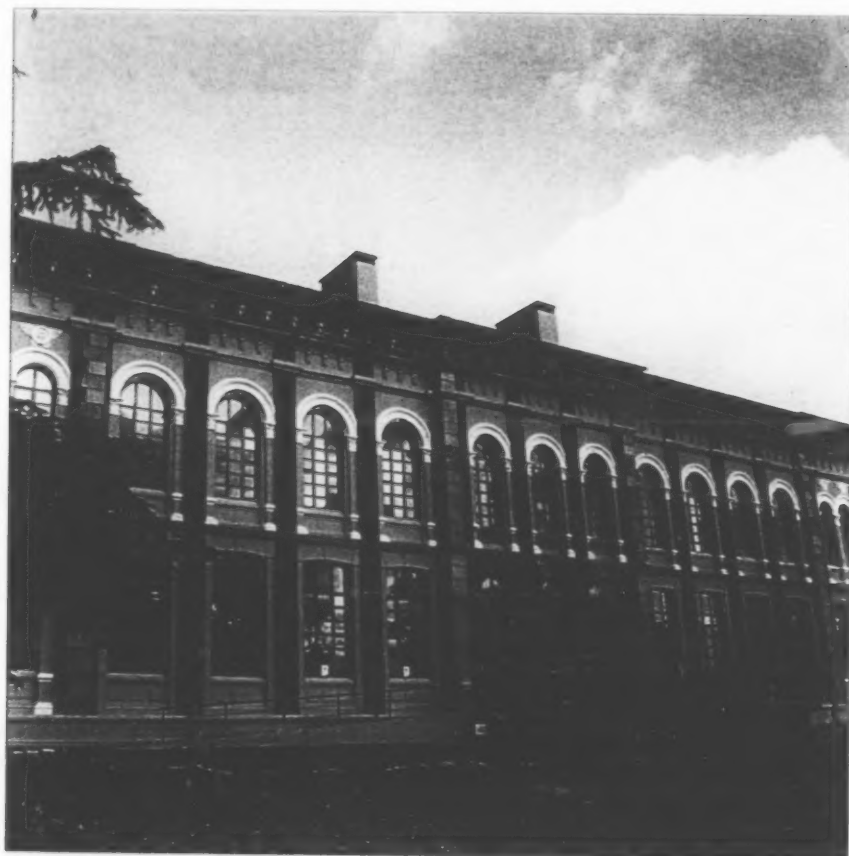
Pedro Lucas del Teso,
Jesús Perucho Lezcano,
Leandro Iglesias Lorenzo

This historic school, designed by Miguel Mathet, was built in the early years of this century. The architectural and ornamental richness of the building reflected the educational ideals of the period. Built in brick on two levels, the original school had a quadrangular form and surrounded a central courtyard. However, after 80 years, the building had physically deteriorated, it lacked sufficient large spaces and was no longer suitable for teaching.

Below left: aerial view;

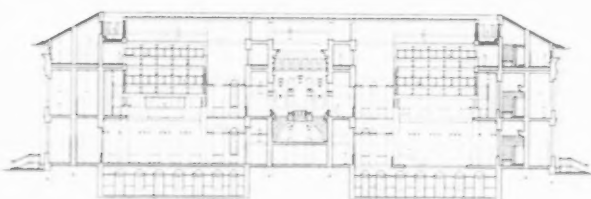
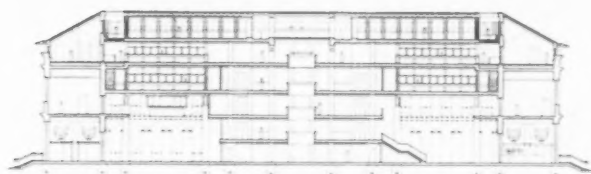
Below right: ground
floor plan.

revitalisation



Above: *the external facade.*

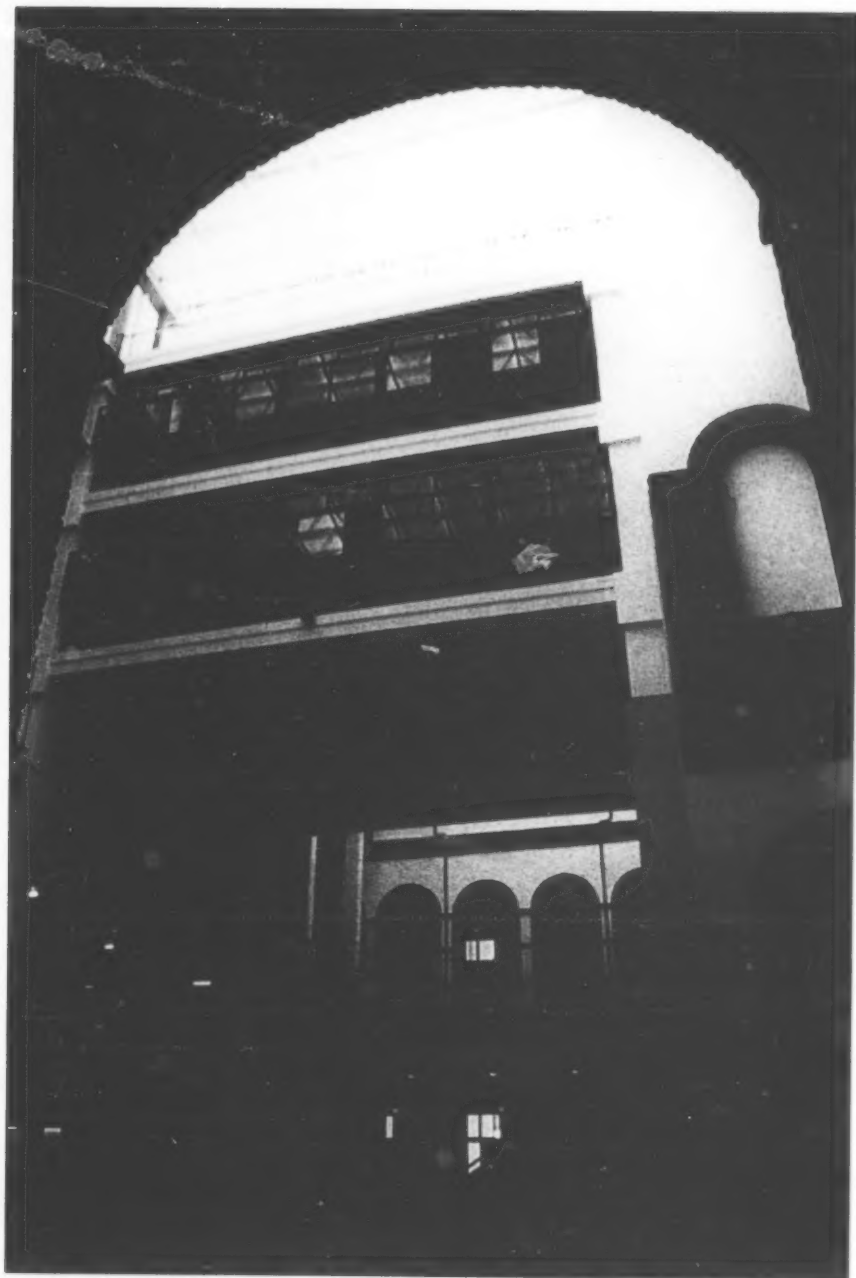
◀ The renovation aimed to create a modern teaching facility yet retain the character of the original building. The most significant feature of the project has been the covering of the courtyard. This has created space for the main entrance hall as well as a large multipurpose hall and theatre. A new central staircase has been built. This work has expanded the floor area of the school by 85 per cent without changing the volume of the building or going beyond its original perimeter. ▶



Top: detail of new roof
covering courtyard;

Above right: central
staircase; **Above left:**
elevation and cross
sections.

With a capacity for 1 000 pupils in compulsory secondary education and vocational training, the renovated Claudio Moyano Institute has four floors. The project demonstrates a genuine revitalisation of a building that had been ill-suited to today's educational requirements. Now a superb teaching facility, the richness of the original has been preserved and is complemented by the modern extension.



Above: part of the
covered courtyard.

Italy

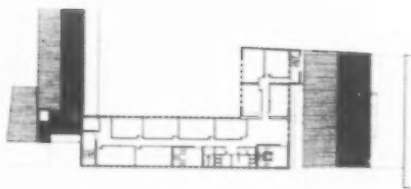
Istituto Tecnico Commerciale Marco Polo

ADDRESS	via Mons. Ruggero Bovelli 3 44100 Ferrara Italy
TELEPHONE	+39 532 209 346
FAX	+39 532 202 365
TYPE OF SCHOOL	vocational education
NO. OF STUDENTS	460
AGE RANGE	14 to 19 years
TYPE OF PROJECT	renovation
YEAR OF COMPLETION	1993
CLIENT	Province of Ferrara
ARCHITECT	Davide Rubbini and Stefano Marini, UTECO

Built in 1515 and expanded during the Renaissance, the former Dominican convent of Santa Monica retained its pristine features until the early twentieth century. Between 1920 and 1960, the building lost much of its architectural unity in a series of additions and alterations to house two secondary schools and a gymnasium.

Right: the convent before restoration;

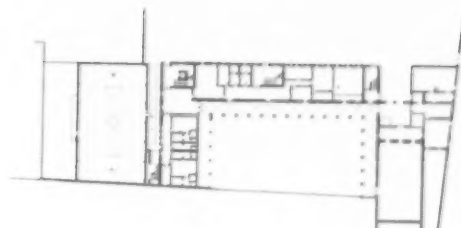
Below: the restored convent building; Left: first floor plan.



converted convent



In the 1990s, it was decided to house the Marco Polo School in the former convent. As well as accommodating the school, the aim was to conserve an important part of the town's architectural heritage and to provide a building for community use. The project is regarded as an example of integrated conservation, comprising both restoration techniques and attempts to define community functions.

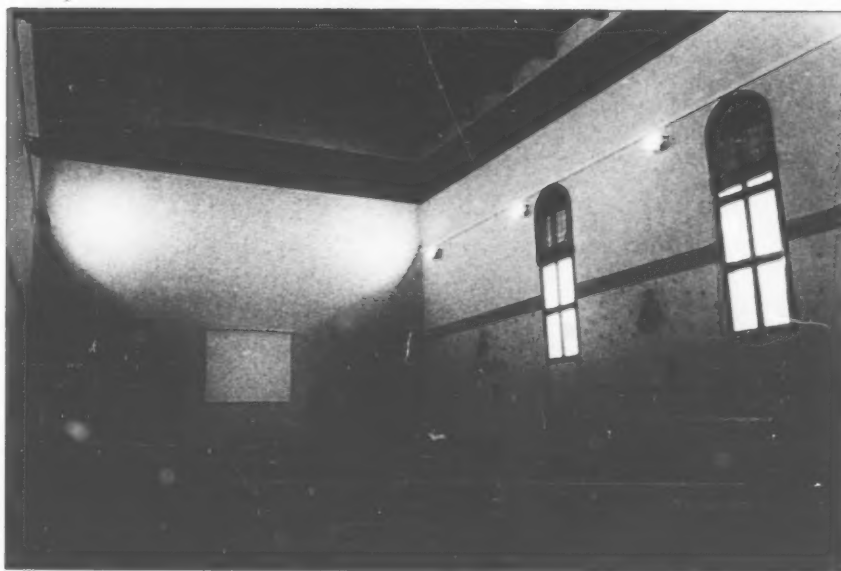


Top right: ground floor plan; Right: the cloisters.

Right: the auditorium before restoration;
Bottom: the restored building with original wood beams; **Centre:** the cloister arcade.



◀ The renovation of this historical site to meet the contemporary needs of a technical and foreign language high school has entailed a series of sophisticated architectural operations, from the detailed scientific restoration of the original frescos of the former choir to the complete reconstruction of some sections of the building.





Left: *the gymnasium;*

Centre: *cloisters at night;*

Bottom: *computer room.*



The school comprises 20 classrooms, laboratories, a library, a printing shop, administration offices, an auditorium and sports facilities. Great imagination has been devoted to the renovation and the practical integration of the high school's different sections. The main wing has been converted into classrooms, the area around the cloisters transformed into a library and the choir itself is used as a meeting room. The former rooms on the upper level have been altered to form scientific and business areas.



Lycée La Fayette

France

ADDRESS
21, boulevard Robert Schuman
63002 Clermont-Ferrand
Cedex 01
France

TELEPHONE
+33 73 28 08 08

FAX
+33 73 28 08 42

TYPE OF SCHOOL
upper secondary

NO. OF STUDENTS
1 480

AGE RANGE
15 to 22 years

TYPE OF PROJECT
new building

YEAR OF COMPLETION
1991

CLIENT
Auvergne Regional Council

ARCHITECT
Christian Hauvette



Replacing the celebrated Amadée Gasquet Technical College which closed after 70 years' service, the Lycée La Fayette is devoted to scientific education. Students prepare for the scientific baccalaureate, technical baccalaureates in mechanics, electronics and civil engineering or for technical qualifications for entry to France's *grandes écoles* (university-level engineering schools).



Right: exterior view of main elliptical building.

energy management



Left: aerial view of the lycée; **Below:** facade of the main building.

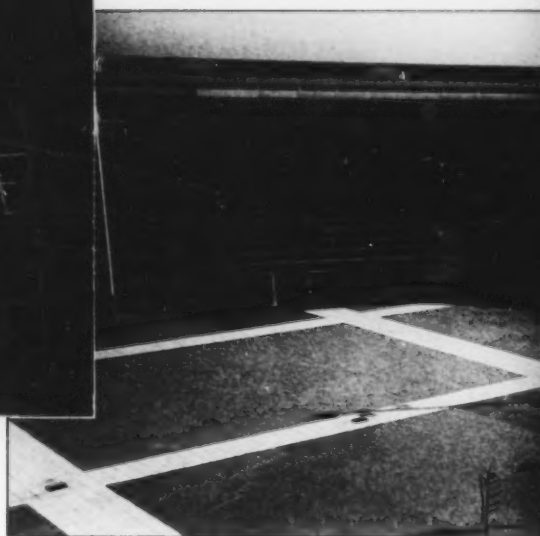
The main part of the building is elliptical in shape and has similar dimensions to the Roman arena at Nîmes. It consists of two concentric ellipses, four storeys high, with the inner ellipse leaning on the outer one at third-floor level. Circulation space is provided by walkways running round the two ellipses.



◀ The technology laboratories, kitchens and a restaurant are housed in a separate rectangular building which is tangential to the main building. A group of smaller pavilions provide boarding accommodation for students and staff. The cascade of windows on the inner facade of the ellipse encircles the courtyard and the combination of glass, aluminium and concrete echoes the colours of the local Volvic stone.

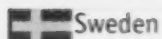
Efforts have been made to use energy effectively and to control energy costs. The number and variety of buildings and the fluctuating patterns of usage makes energy management complex. A highly sophisticated natural gas system is based on two main boiler houses with separate boilers in each of the nine pavilions. The whole system is managed from a central control room. The additional cost of the equipment is expected to be recouped over a relatively short payback period through lower energy bills.

Below: bird's-eye view of campus; **Right:** an interior walkway; **Below right:** the courtyard.





Chapmanskolan



| ADDRESS

Box 309
S-37125 Karlskrona
Sweden

| TELEPHONE

+46 455 76054 |

| FAX

+46 455 76059 |

| TYPE OF SCHOOL

upper secondary |

| NO. OF STUDENTS

2 400 |

| AGE RANGE

16 to 19 years |

| TYPE OF PROJECT

renovation and extension |

| YEAR OF COMPLETION

1991 |

| CLIENT

Karlskrona Municipality |

| ARCHITECT

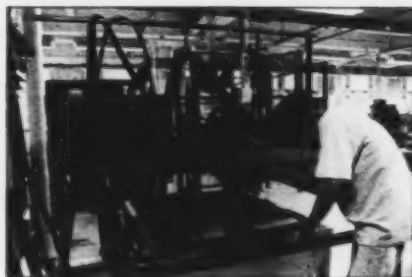
White Arkitekter AB |

Chapmanskolan is located in the centre of Karlskrona's administrative, cultural and commercial district. It is housed in a number of buildings in and around the former town hall. Built in 1750, the town hall became a grammar school in 1825. In 1877, neighbouring buildings were purchased from a distillery company. A gymnasium was added in the 1930s.



Above: site plan; **Right:**
view across courtyard to
the old school building.





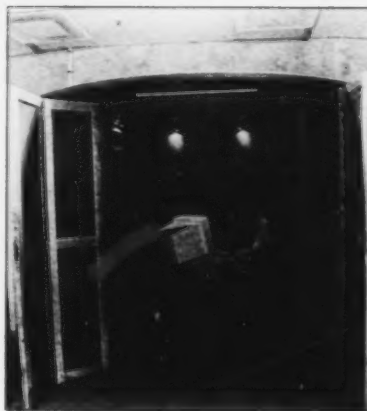
◀ school was acquired. Chapmanskolan took possession of the site in 1994.

During the 1980s, the old technical college was completely renovated. The adaptation of the former town hall was completed in 1991. It now houses a number of well-equipped facilities for teaching subjects in the humanities, and social, natural and economic sciences, as well as two assembly halls. Science and information technology rooms are accommodated in another renovated and converted building which adjoins a new block housing the school restaurant and cafeteria, the principal's office and some general classrooms.

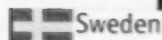
The whole school is now complete and all premises are equipped to modern standards. There is a library, five information technology centres with rooms for group activities, and sports facilities. A broadband network provides state-of-the-art technology for educational, administrative and library use.

Above: student in the automation workshop;

Below: multimedia workstation; **Bottom:** the library.



media studies



Lugnetgymnasiet, Mediehuset

Sweden

Famous for graphic art, the town of Falun has strong ties with the media industry. Swedish state television, regional radio and educational radio have production studios in the town. Falun also houses the editorial offices of two newspapers, some 25 graphic design companies and an educational video company. These links with the media have been strengthened by the opening in 1993 of a purpose-built institute to provide education and training in media production. ►



Above: site plan, the Media House (B) is situated next to the secondary school (A);
Right: view of Media House from the school.

ADDRESS	Lugnetsvägen 3 S-79131 Falun Sweden
TELEPHONE	+46 23 83460
FAX	+46 23 83847
TYPE OF SCHOOL	vocational education (media studies)
NO. OF STUDENTS	1 200
AGE RANGE	16 to 19 years
TYPE OF PROJECT	new construction
YEAR OF COMPLETION	1993
CLIENT	Falun Municipality
ARCHITECT	Skanska AB

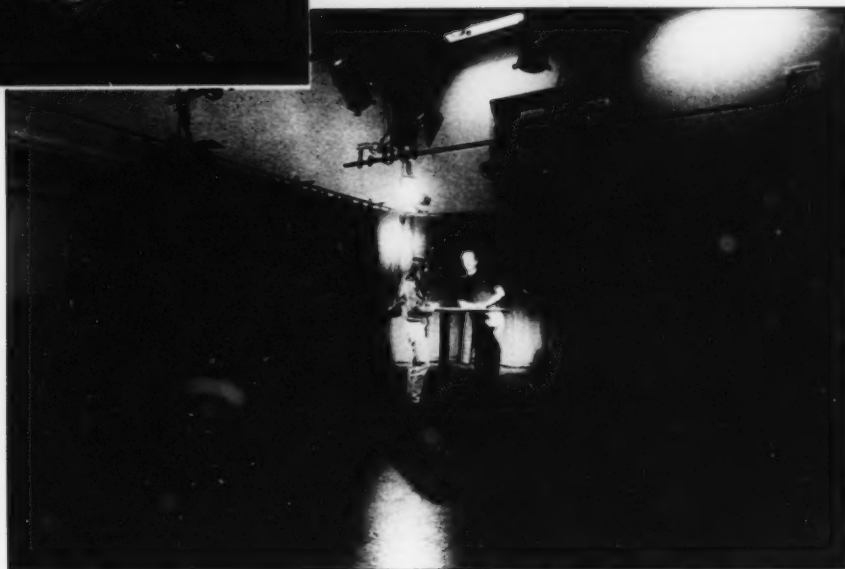


◀ The Media House is a co-operative venture between Lugnet Upper Secondary School, Falun Institute of Adult Education, the University of Falun and Borlänge, and the State Vocational Training School. It provides a comprehensive three-year media education for high school students as well as a technologically advanced resource for the university and adult education.

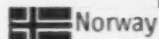
Below left: foyer; **Below right:** the Media House's film and television studio.

The need to accommodate studios and darkrooms – that have particular requirements for sound proofing and air humidity – influenced the choice of building material and construction. Outer walls are concrete, with curtain walls of timber clad with wood panels, bricks and sheeting. The inner walls consist of gypsum wallboard finished with painted woven fabric.

Designed and organised to cater for a wide variety of disciplines within the media production industry, the Media House has the facilities to teach photography, film and video production, sound recording, printing and bookbinding.



factory conversion



Norway

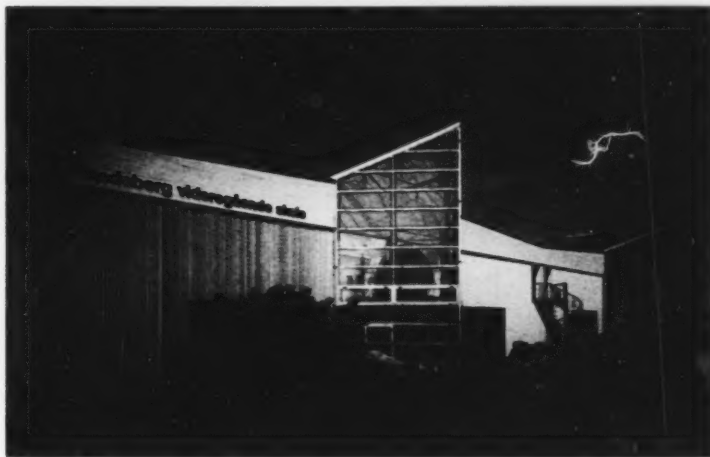
Randaberg videregående skole

Occupying the site of a former printing works, Randaberg upper secondary school runs general and business studies programmes, foundation and advanced courses for a range of industrial and professional trades, and some apprenticeship training programmes.

In developing the site, the project team faced the challenge of converting the square colossus of the factory into an educational institution. The main architectural features of the exterior have largely been retained. The exterior brown corrugated steel cladding has been replaced with new white cladding. Two new entrances for students have been constructed with the original main entrance retained as the administration entrance. New canopies have been added above the entrances and the surroundings have been landscaped.

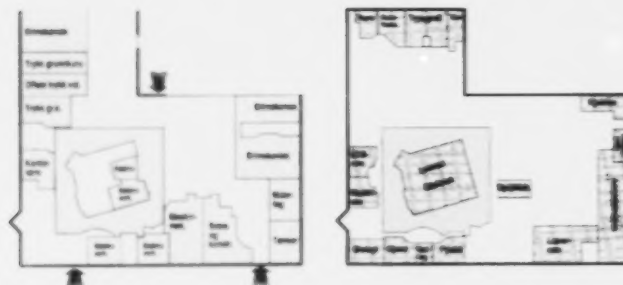
Inside, new floors have been constructed. The large interior volume of the building has been opened by

ADDRESS	Grødemsveien 70 N-4070 Randaberg Norway
TELEPHONE	+47 51 41 55 00
FAX	+47 51 41 04 99
TYPE OF SCHOOL	upper secondary
NO. OF STUDENTS	800
AGE RANGE	16 to 19 years
TYPE OF PROJECT	renovation and extension
YEAR OF COMPLETION	1984
CLIENT	Randaberg Municipality
ARCHITECT	Helliesen, Wåge and Hallgren



Left: the renovated factory exterior with new student entrances.





two large roof lights (each 7 m. by 50 m.) situated above walkways. The walkways function as main communication routes, allowing ease of access between different teaching rooms and recreation areas. Classrooms face onto an interior courtyard. The library is located in the centre of the building and is easy to reach from all parts of the school.

As well as finding a good use for a redundant factory, the project made substantial savings in time and money for the municipal authorities. Cheaper than building a new school of comparable capacity, the project took less than two years from developing the initial concept to completing the conversion.

Above: ground and first floor plans; **Below:** part of the interior courtyard.

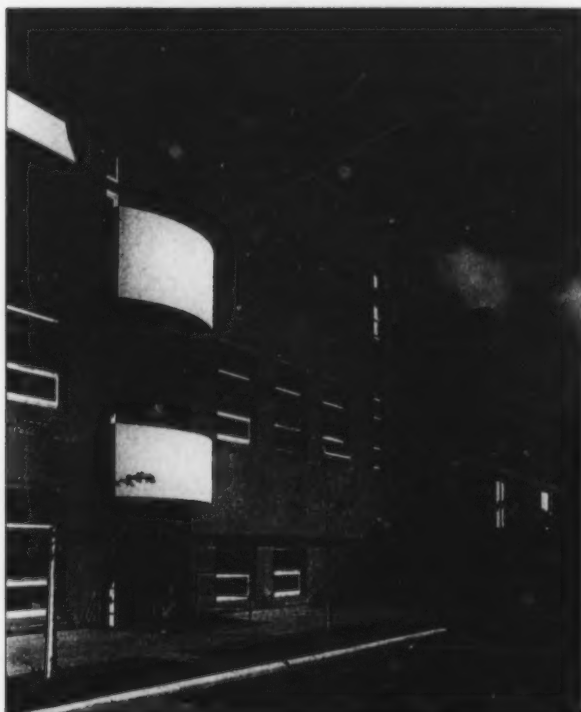


business class

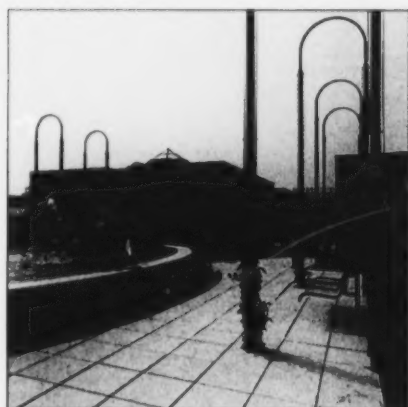


 Denmark

Århus Købmandsskole



ADDRESS	Vejlby Centervej 50 DK-8240 Risskov Denmark
TELEPHONE	+45 89 363800
FAX	+45 89 363808
TYPE OF SCHOOL	vocational education (business)
NO. OF STUDENTS	800
AGE RANGE	16 to 20 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1993
CLIENT	Århus Business College
ARCHITECT	Kjaer & Richter



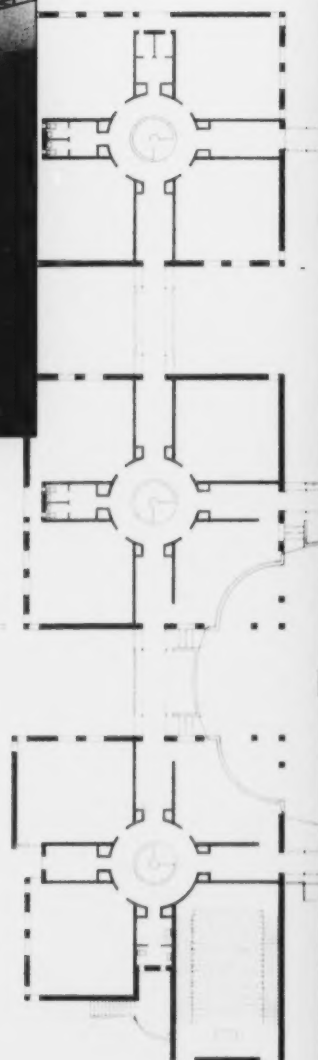
Above: administration building; **Left:** view from the water garden.

Arhus Købmandsskole is a new business college for vocational education and training in northern Denmark. The aim of the project was to provide a stimulating learning environment. By allowing flexible use of available space, it was also the intention to achieve a high level of space utilisation.



Right: *central assembly hall and canteen;*

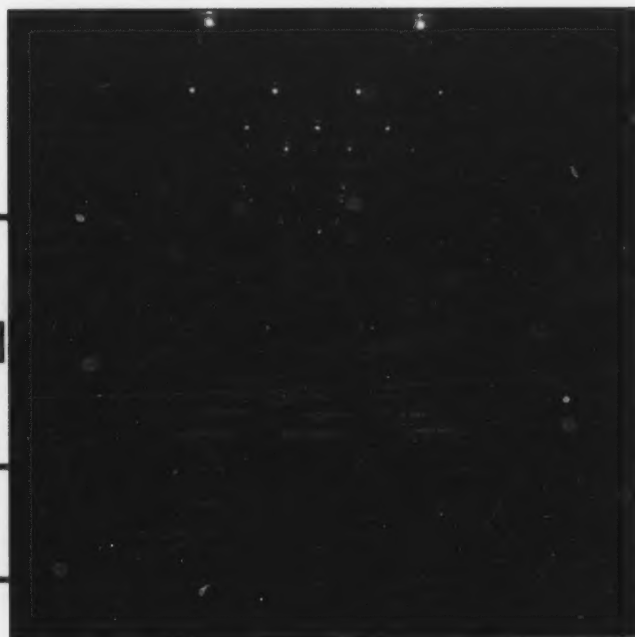
Middle: *floor plan.*



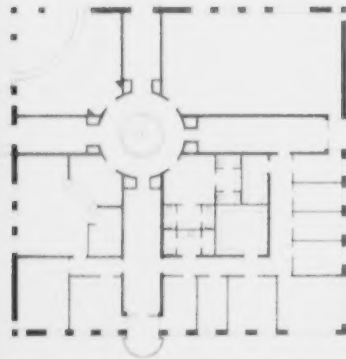
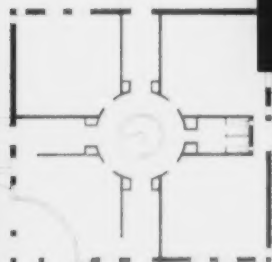
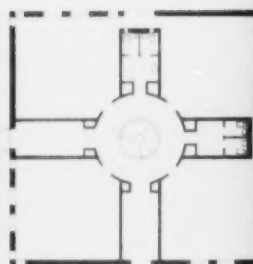
All photographs courtesy Thomas Pederson and Poul Pederson

- ◀ Six independent buildings have been placed close to one another. Four of them intersect at four corners, forming a unified whole comprising the assembly hall and canteen. Functionally, the school is divided into three units, two with classrooms and areas for group projects, the third being occupied by the staff facilities, school administration and computer rooms.

A good balance has been achieved between the distribution of spaces for classrooms, individual student work, teamwork activities and the areas for



Left: another view of central assembly hall.



larger gatherings. The school has been designed to accommodate information technology throughout the building.

The architects have been particularly concerned with visual and aesthetic aspects, making extensive use of natural and artificial light and working out the building elements in human proportions. Natural materials and an efficient ventilation system make for a comfortable indoor climate.



Above: exit from
assembly hall; **Below:**
view of college.

◀ Care has been taken to make the college grounds attractive for students and staff. The buildings are surrounded by a park, planted with small oak trees, flowering trees and bushes. There is a water garden to the west and planted gardens to the north and south.



agricultural education



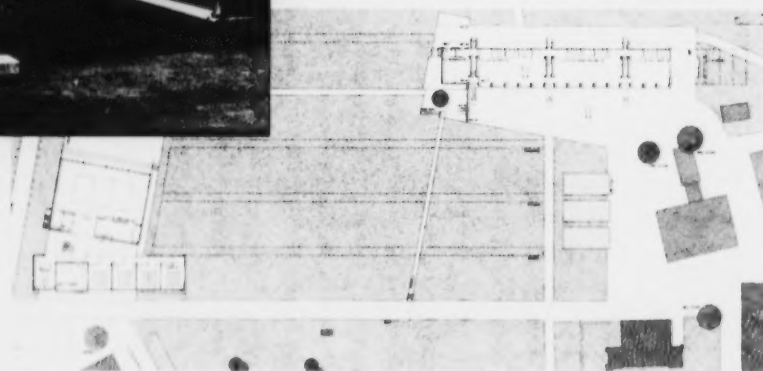
Switzerland

Ecole et stations agricoles cantonales de Grange-Verney

Agriculture is undergoing profound change. Technical requirements are constantly evolving. Farming methods are becoming more complex, agricultural tools and machinery are increasingly sophisticated.



Above: workshop building within the complex of farm buildings;
Right: site plan.



ADDRESS	1510 Moudon Vaud Switzerland
TELEPHONE	+41 21 995 34 34
FAX	+41 21 995 34 30
TYPE OF SCHOOL	vocational training, continuing education
NO. OF STUDENTS	172
AGE RANGE	16 to 20 years
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1994-95
CLIENT	Canton of Vaud, Buildings Department
ARCHITECT	Laurent Faessler and Ines Werner

Right: walkway across fields to the workshops;

Below: a workshop;

Bottom: detail of facade.



Farmers need information and vocational training to keep up to date. By providing bridges between different farming occupations, agricultural schools can help those farmers wishing to diversify and ensure that farming practices complement one another more fully.

This school is sited in a rural district, away from urban and industrial areas. It aims to make a significant contribution to the local agricultural economy. The school buildings form two distinct groupings; the administrative and teaching blocks are close to the main road, and the farm buildings located by the edge of the forest. The project sought to unify these two elements.

The site comprises a teaching block, a workshop building for mechanical engineering, welding and woodwork together with boarding accommodation. There is also a cafeteria, meeting rooms, laboratory and offices for agricultural associations. The buildings make extensive use of timber, both in the structural frame and in the floors, internal partitions and cladding.

The facility is designed to cater for a wide variety of students. It provides vocational training (with boarding accommodation) for young people, courses and workshops for practising farmers, and seminars for professional groups. It provides a focus for farmers from across the district to exchange experience and to study new farming techniques.

individualised learning



 Iceland

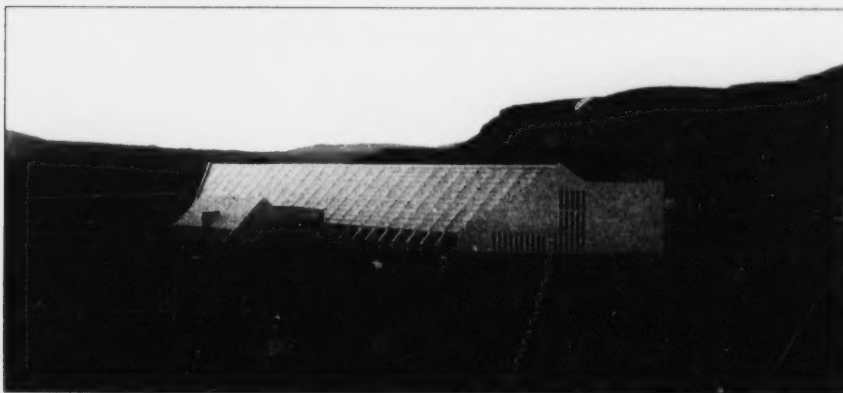
Fjölbrautarskóli



Left: ground floor plan; **Below:** southern aspect.

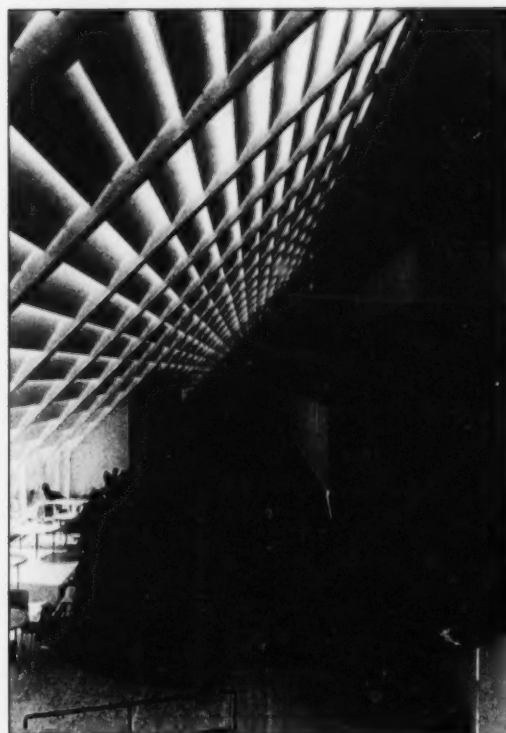
Fjölbrautarskóli is a regional upper secondary comprehensive school. It is located in Selfoss, a town of just over 4 000 inhabitants, but attracts pupils from a wide rural catchment area of about 16 000 people. It was built in two phases, opening in 1987 and 1994 respectively.

ADDRESS	Tryggvagötu IS-800 Selfoss Iceland
TELEPHONE	+354 482 2111
FAX	
TYPE OF SCHOOL	upper secondary
NO. OF STUDENTS	650
AGE RANGE	16 to 20 years and above
TYPE OF PROJECT	new building
YEAR OF COMPLETION	1994
CLIENT	Selfoss Town
ARCHITECT	Maggi Jónsson





Above: school and main entrance; **Right:** looking down into the common area; **Below:** lateral cross section.



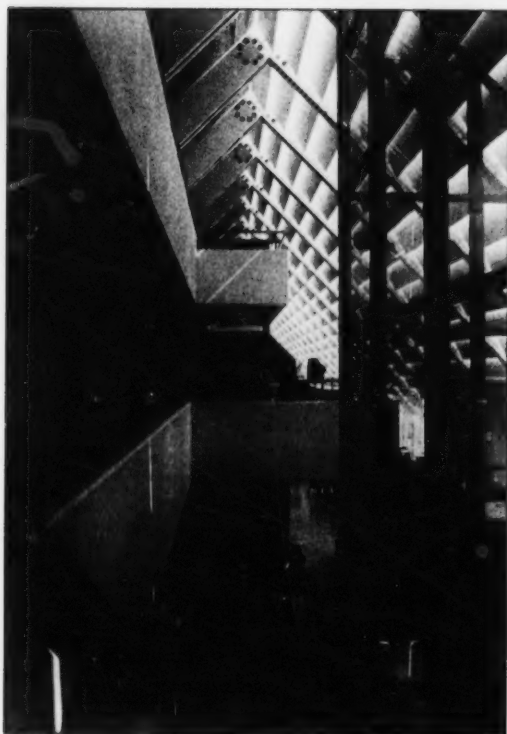
◀ The school operates on the unit-credit system. Pupils select a programme of study, comprising a number of individual courses or credits. In this system, each pupil has a personal timetable and graduates from a particular course when he or she has completed the required number of credits.

In designing the school building, the aim was to foster cohesion and an identification with the school among students pursuing widely different programmes of study. In addition, as substantial

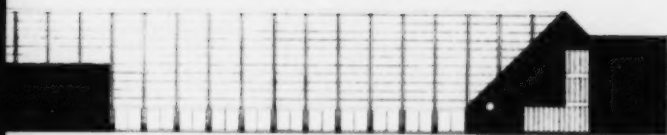


numbers of pupils commute daily to the school in school buses, it was necessary to provide areas for students to relax and study during the free periods in their schedules.

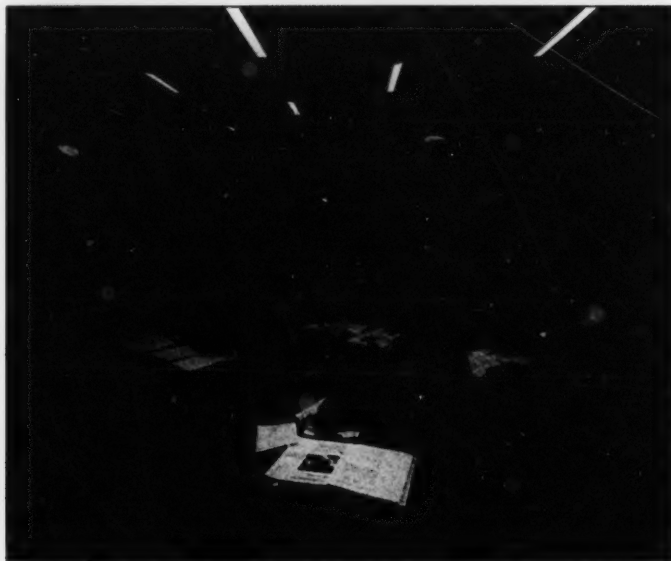
These factors led to the adoption of a centralised design. A spacious, glass-roofed common area with a southern exposure has created a variety of spaces. These balconies, nooks and corners, together with a cafeteria, allow pupils to meet between lessons, rest and form social connections. It is widely used and popular with students.



Left: walkways and stairs down to the common area; **Below:** east-west elevation.



Above: *classroom;*
Below: *technical
drawing studio.*



◀ Since the school opened, a significantly greater proportion of local young people have entered upper secondary education. The school has attracted hundreds of visitors from abroad.



applied science



Lycée Jacques Monod

France

Situated in the eastern suburbs of Orléans, the lycée in St-Jean-de-Braye is named after the Nobel Prize-winning scientist Jacques Monod. It is a general and technical secondary school specialising in physics and chemistry and their industrial applications. The 27 000 sq. m. building was completed in 1989.

The architecture seeks to express the scientific vocation of the school through both its shape and its colour. The buildings display both daring and harmony, integrating well with the various new buildings that make up the town centre of St-Jean-de-Braye.

ADDRESS

rue Léon Blum
48503 St-Jean-de-Braye
France

TELEPHONE

+33 38 55 68 69

FAX

+33 38 61 58 00

TYPE OF SCHOOL

upper secondary

NO. OF STUDENTS

1 336

AGE RANGE

16 to 20 years

TYPE OF PROJECT

new building

YEAR OF COMPLETION

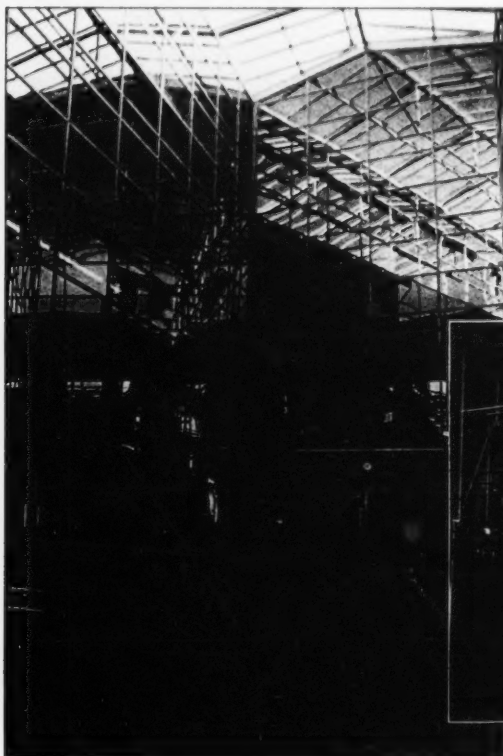
1989

CLIENT

Centre Regional Council

ARCHITECT

Costantini Regembal Lemaire



Far left: glass-covered utility area; Left: science laboratory.



Above: the teaching block (left) is linked to the administration block by an aerial walkway;

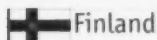
Below: school buildings across the courtyard.

Two main elements of the institution, the teaching accommodation and the boarding facilities, are separated by a public thoroughfare. The two buildings are linked by a footbridge. The school itself houses an open-air amphitheatre and a large glassed-in area which can serve as a setting for concerts.

The lycée is designed to make a positive contribution to urban renewal. It is situated in close proximity to the sports hall, a supermarket, the bus station and a number of other buildings housing public services and shops.



shipyard conversion



Turku Music Conservatory



Top: elevation of one of the shipbuilding halls;

Above: recital room;

Right: part of the site before renovation.

ADDRESS	Linnankatu 60 SF-20100 Turku Finland
TELEPHONE	+358 21 2507600
FAX	+358 21 2535610
TYPE OF SCHOOL	music school
NO. OF STUDENTS	976
AGE RANGE	1 to 30 years
TYPE OF PROJECT	adaptation and renovation
YEAR OF COMPLETION	1994
CLIENT	Turku and surrounding districts
ARCHITECT	Laiho, Pulkkinen, Raunio Architects

In 1987, the City of Turku organised an architectural competition to produce a master plan for the redevelopment of the west bank of the river Aura. The winning entry proposed transforming this former shipbuilding area by adapting the existing industrial buildings for educational purposes and by creating a museum and offices.

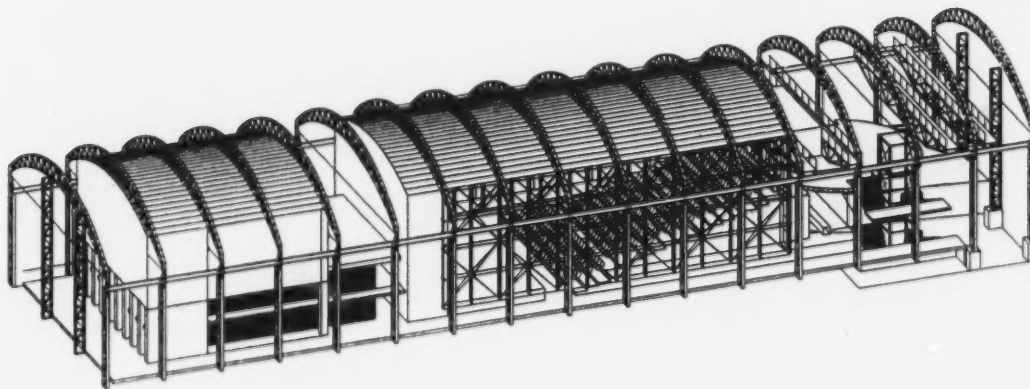


Left: entrance to adapted shipbuilding hall;

Below: elevation showing internal detail.

Two massive shipbuilding halls and a former rope factory will house a major fine arts complex. The music conservatory, completed in 1994, is housed in one of these halls. It also occupies the major part of the rope factory. The second hall will house the Turku School of Art and Communication. Turku School of Fine Arts is already located in the same block. It is eventually planned to link all three schools by using the rope factory's "chute" as a connecting corridor.

Within the conservatory complex, efforts have been made to preserve the original sense of space. Classrooms and practice facilities are located on two levels in the former rope factory, where the ordered spacing of the windows allows for a natural division into rooms. Administration and offices for teachers are located in the "chute" area. A small space between the rope factory and the shipbuilding hall





Above: classroom;

Left: first floor plan;

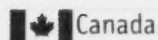
Right: ground floor plan.

◀ has been covered with glass and is used as an entry space to both buildings.

In the former shipbuilding hall, the high ceiling guarantees an ideal environment for music teaching. The hall accommodates a 400-seat auditorium, together with recital rooms and a music library. These spaces have been created as new and separate structures within the original building. The auditorium walls are constructed of glass, extending space visually to the older, outer walls. This has been done to minimise noise pollution from the street, and to protect the existing, riveted steel, exterior wall structures.

Externally, the buildings are largely unchanged. Inside, load-bearing structures such as moving bridge cranes have been preserved and utilised wherever possible.

Centre de formation en alimentation et tourisme



ADDRESS

164 rue Wellington Nord
Sherbrooke
Québec J1H 5C5
Canada

TELEPHONE

+1 819 822 5361

FAX

+1 819 822 6879

TYPE OF SCHOOL

vocational education
and training

NO. OF STUDENTS

200

AGE RANGE

16 years and above

TYPE OF PROJECT

adaptation and extension
of an existing building

YEAR OF COMPLETION

1996

CLIENT

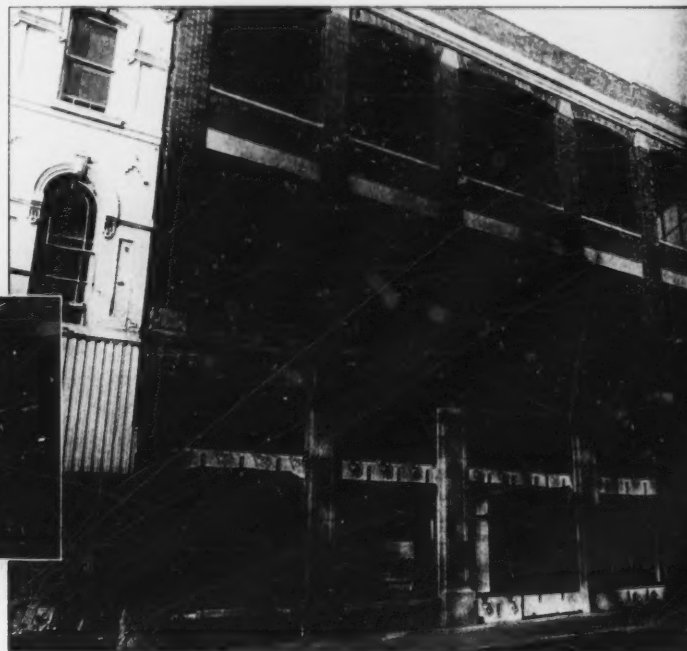
Sherbrooke Catholic
Schools' Board

ARCHITECT

Jubenville et Mailhot

The building which now houses this centre for catering and tourism was originally an ironmongery store. Of considerable architectural interest, the four-storey building has some 800 sq. m. of floor space on each level. When acquired by the municipal authorities, it was in excellent structural condition.

The centre was located on this site as part of a broader plan to revitalise the city centre. The challenge was to adapt the building to incorporate three teaching kitchens, a dining room, a storeroom and a bakery together with classrooms and staff rooms. This required extending the original building, both onto the adjacent site where a neighbouring building was demolished and behind the next building further down the street.



commercial premises



Left: floor plan;
Below (from left to right): street view before conversion; the buildings after renovation; rear view; a teaching kitchen.



At street level (level two), there are the teaching kitchens, dining room and bakery. Butchery is taught in the basement. The other classrooms and staff rooms are on the third level, while the upper level houses the ventilation and central heating plant. There is some unused space which could be fitted out in the future to provide more teaching and workshop space.

Surrounded by shops and other businesses, the training centre integrates well with the other commercial activities in the area.

Coffs Harbour Education Campus

 Australia

| ADDRESS

Hogbin Drive
Coffs Harbour
NSW 2450
Australia

| TELEPHONE

+61 66 593000

| FAX

+61 66 593071

| TYPE OF SCHOOL

upper secondary,
vocational training,
higher education

| NO. OF STUDENTS

2 500

| AGE RANGE

16 years and above

| TYPE OF PROJECT

new building

| YEAR OF COMPLETION

1995

| CLIENT

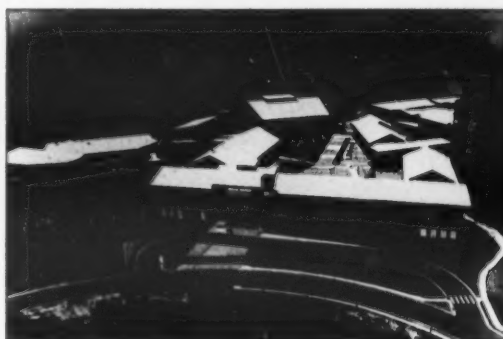
Coffs Harbour City Council,
Ministry of Education,
Department of School Education,
TAFE Commission,
Southern Cross University

| ARCHITECT

NSW State Projects
with Conrad and
Gargett Architects

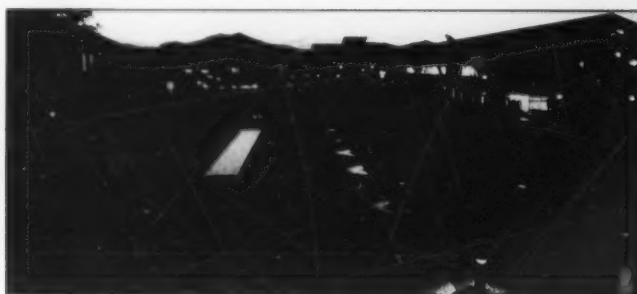
Coffs Harbour Education Campus is an integrated facility combining a university, a TAFE (Technical and Further Education) college and a senior high school. The campus breaks new ground in the articulation of the curriculum, educational administration and facility design, eliminating traditional divisions between educational institutions. The physical integration of the institutions enables students to choose flexible pathways across courses.

Located on a narrow coastal strip sandwiched between the Pacific Ocean and an escarpment, Coffs



Harbour is an innovative built environment. The campus has been designed to minimise the impact on the natural environment while incorporating latest technology and design. A conscious effort was made

Above: aerial view of campus; **Right:** view from within the central assembly area; **Far Right:** exterior views of buildings and site plan.

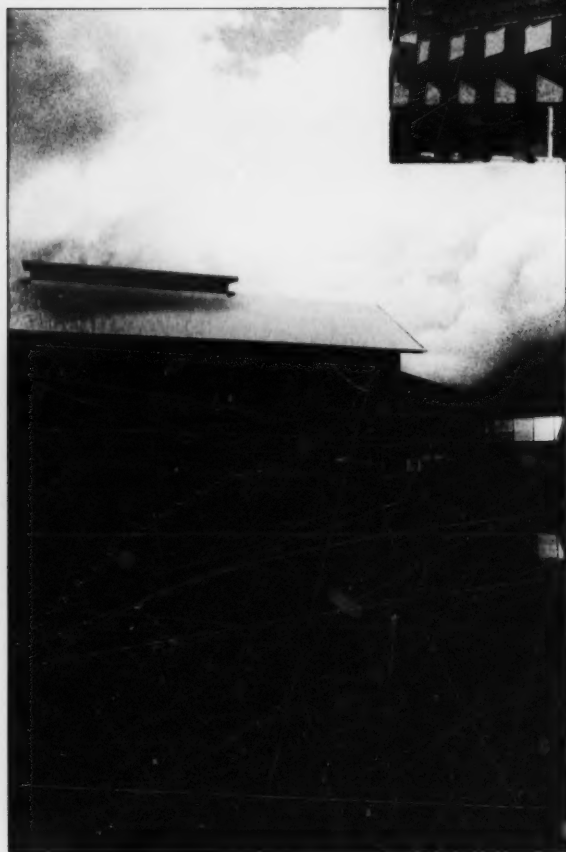
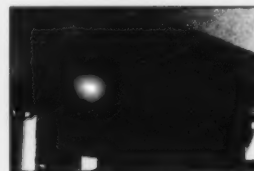


integrated campus



to maintain significant landscape features and accentuate these by the buildings. A minimal amount of vegetation has been removed and rainwater site run-off is controlled to avoid contaminating the surrounding wetlands.

The design criteria emphasised the need for an energy-efficient environment with low maintenance costs. The campus incorporates principles of passive solar design, with effective insulation, air conditioning and heat recovery. The buildings are designed to make the best use of daylight. Radiating



from a central, circular assembly area, buildings are oriented to take advantage of prevailing breezes to maximise natural ventilation.

The project has aimed to set benchmarks in areas such as communications and information technology, access management and security. The communications system allows interactive distance learning and encourages industry participation. Movement across the campus is through a network of colonnades and covered walkways. All facilities are fully accessible to people with disabilities.

Open Training and Education Network

 Australia

ADDRESS

51 Wentworth Road
Strathfield
NSW 2135
Australia

TELEPHONE

+61 2 715 8000

FAX

+61 2 715 8111

TYPE OF SCHOOL

distance and open learning,
secondary, vocational education

NO. OF STUDENTS

more than 28 000

AGE RANGE

16 years and above

TYPE OF PROJECT

new building

YEAR OF COMPLETION

1995

CLIENT

Department of School Education and
TAFE Commission, New South Wales

ARCHITECT

Philip Cox



Above and right: the
main entrance; **Far right:**
site plan of the complex.

Open and distance education exploits new information and communication technologies for learning. Although their learning involves fewer structured situations, students do need access to educational facilities. Open learning institutions need to provide study and work space, meeting rooms for tutorials, and the institutions themselves need facilities such as laboratories, libraries, studios and specialised equipment rooms.

This purpose-built complex, designed by Philip Cox for the Open Training and Education Network, is a response to the changing methods and technologies used to deliver open and distance learning. It is the main support facility for distance and open learning programmes in the state of New South Wales.

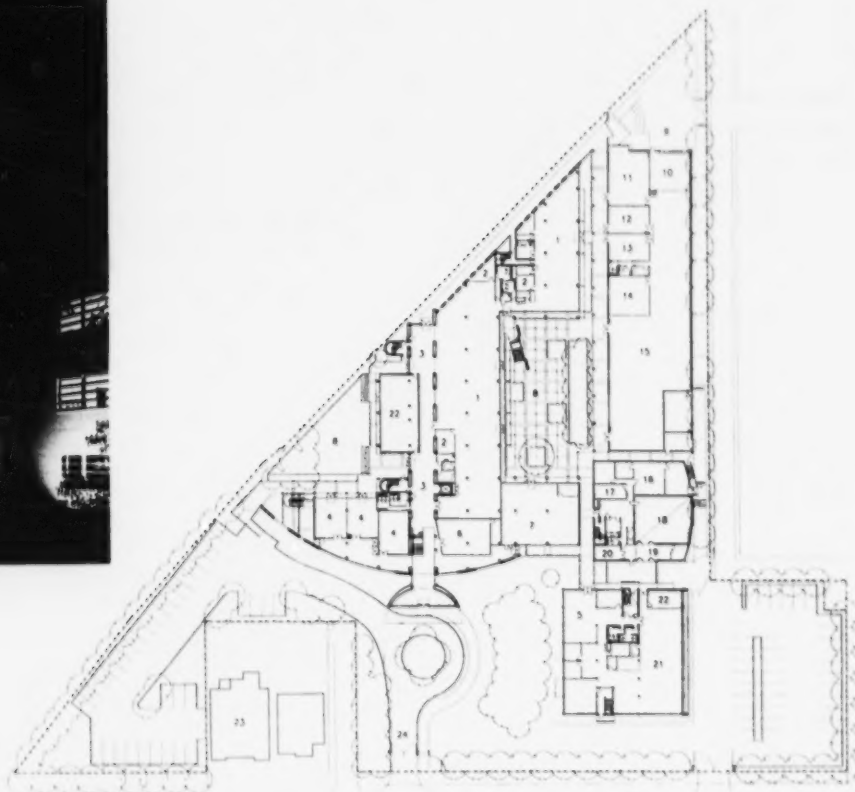
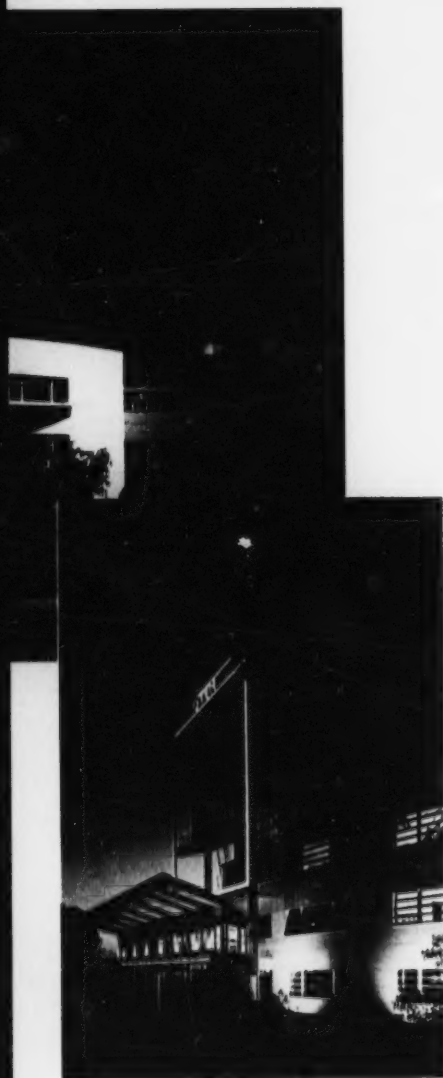
open learning



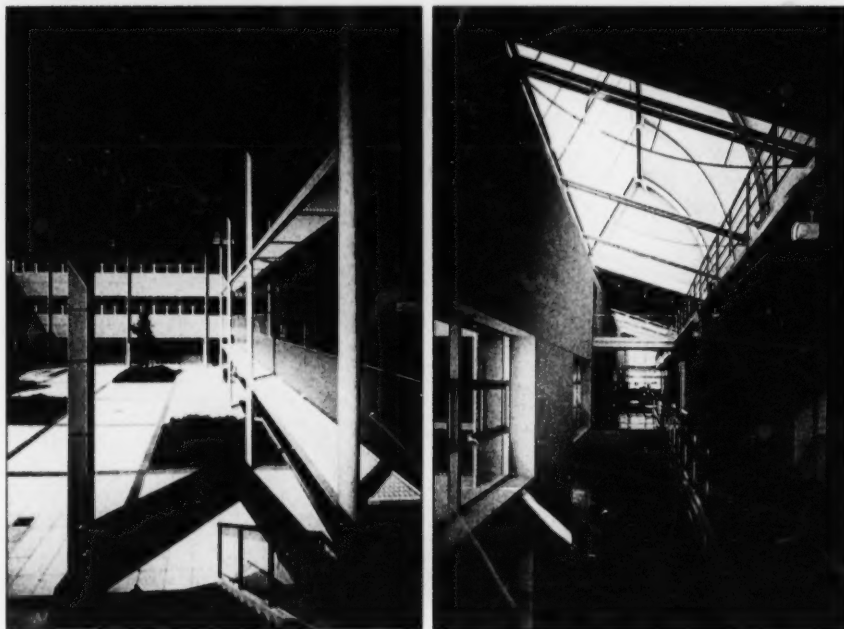
◀ The new structure integrates two existing buildings with a series of three-storey office wings to form a complex around a central open courtyard. A single-storey pavilion leading to a double-height circulation spine provides the main entry point and organisation for the facility. A communications tower situated at the joint of this pavilion and circulation spine serves both a functional and symbolic role, signalling the high-tech communications work of the facility.

In most of the complex, offices are open plan and there is space for the production of learning materials. The complex houses an administration unit, offices for teaching and support staff, a

▶



◀ television and film studio, and a learning materials distribution centre which includes a warehousing operation. It also accommodates three seminar rooms, a library and video centre, an educational technology and systems area and a business centre available for public hire.



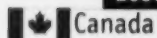
Left: looking out to central courtyard; **Right:** main circulation spine.

The infrastructure of the new building has been designed to provide an "integrated technology platform", enabling the institute's four computing systems to talk to one another. The aim is to provide a flexible communication backbone to support open and distance learning. Staff access E-mail, bulletin boards and conferencing facilities on a common linkup and students have 24-hour access to open learning resources and video conferencing facilities.

building trades

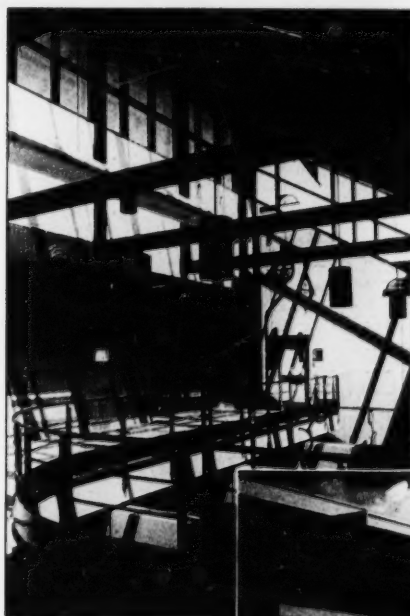


Ecole des métiers et occupations de l'industrie de la construction de Québec

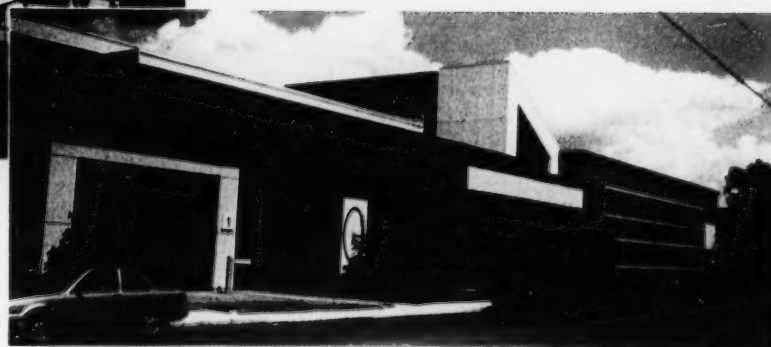


The creation of this new education and training centre for the building trades was achieved through the extensive renovation of an existing building and the construction of a modern extension. The new centre can accommodate more than 500 students as well as 60 teaching and non-teaching staff.

Training workshops in a school of this type are indoor building sites. So, in drawing up plans for the centre, there has been an emphasis on health and safety. Some parts of the existing building have been demolished because they could not meet



Above: corridor leading to first-floor workshops;
Right: street view.



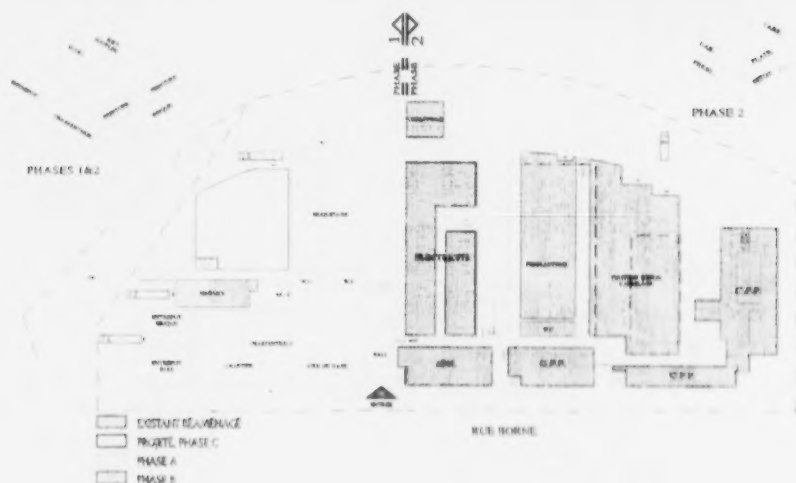
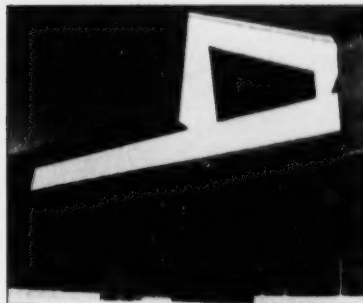
ADDRESS	1060, rue Borne Québec G1N 2L9 Canada
TELEPHONE	+1 418 681 3512
FAX	+1 418 681 2410
TYPE OF SCHOOL	vocational education, adult education
NO. OF STUDENTS	478
AGE RANGE	17 years and above
TYPE OF PROJECT	renovation and extension
YEAR OF COMPLETION	1994
CLIENT	Québec Catholic Schools' Board
ARCHITECT	Beaudet & Nolet, Régis Côté et associés

Right: main entrance;
Below: entrance hall;
Bottom: site plan.

environmental and safety standards. The areas that were retained have been enlarged and reorganised.

Careful thought has been given to the layout to ensure effective utilisation of space. Workshops requiring heavy equipment – carpentry and joinery, bricklaying and stonemasonry, and the preparation and working of concrete – have been located on the ground floor. Workshops using lighter equipment, for example those for painting and decorating, electrical systems and plastering, are on the first floor. Classrooms are also on the first floor. To ensure flexibility, the workshops on the ground floor have been built over a crawl space so that it is easy to install and reroute drains, pipes and cables.

By constructing a circulation route between the new extension and the renovated building, the architects have created a space for the main entrance hall and a common area for students, allowing people on different courses somewhere to mix and relax.





Escola Marquesa de Alorna, Resource Centre

Portugal



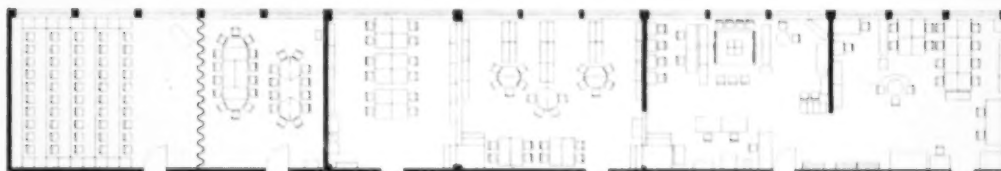
New legislation in Portugal has made it a requirement that schools have educational resource centres. Built in 1959, the Marquesa de Alorna Primary School chose to create a resource centre by adapting some of the original classrooms.

The classrooms have been remodelled to provide access to a range of teaching and communication technologies, including personal computers, television and other audio-visual media. There is a darkroom, graphic design studio, audio-visual production suite and study rooms.

As well as a resource for the primary school, the centre serves neighbouring schools and the wider

ADDRESS	rua Dr Júlio Dantas 1300 Lisbon Portugal
TELEPHONE	+351 1 387 0992/3
FAX	+351 1 387 3102
TYPE OF SCHOOL	learning resource centre in a primary school, teacher training
NO. OF STUDENTS	not applicable
AGE RANGE	all ages
TYPE OF PROJECT	renovation and adaptation
YEAR OF COMPLETION	1989
CLIENT	Technical and Secondary Education Construction Authority, Ministry of Education
ARCHITECT	José Sobral Blanco

Above: main school
entrance; **Below:** floor
plan of resource centre.



public. It is an important facility for teachers and is used in adult education programmes.

The centre is an encouraging example of how educational facilities can be adapted at low cost to reflect and reinforce changes in society and of how they can make more effective use of the space at their disposal to the mutual advantage of the school and the wider community.



Left: clearing the old
classroom; **Right:** library
and computer room;
Below: a study room.





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